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VOL. IX. { WILLIAM WELD, Editor & Proprietor. }

LONDON, ONT., MAY, 1874.

{ \$1 Per Annum, Postage Prepaid. } NO. 5

Prize Essays.

We will give two prizes for essays this month: One on the Summer Management of Bees; one on the Best Plan for Packing and Keeping Eggs over Winter. Essays must be in by the 20th of May.

Crop Prospects—The Fall Wheat.

The reports we have received of the prospects of the fall grain are generally unfavorable. One exchange says: "The changing weather is hard on fall wheat, which has been badly winter killed." Another exchange says: "We fear that in consequence of the want of a snow covering, and the repeated thawing and freezing—that the fall wheat has been seriously injured, and that not more than half a crop may be expected. We believe many farmers will be under the necessity of plowing it up and re-sowing, as in that case it can be raked up without breaking a root." Another says: "From almost every quarter we hear bad reports of the wheat crop." Another, not so discouraging, says: "The reports of the condition of fall wheat are, as usual, conflicting. The rye is represented as being both good and bad, and we are not in a position to decide which is which. We are inclined, however, to credit some discouraging rumors." The replies to our own inquiries have been similar to the reports of our exchanges—generally discouraging.

From the personal observation of the Editor of the ADVOCATE, our own reports must be unfavorable. The fall wheat has in many places been badly winter killed. This has especially been the case in low-lying lands, while on high ridges the crop has stood the season well; and a most trying season it certainly has been—incessant changes throughout the winter, and, except for a very brief season, the ground was without its needed covering of snow. In Essex and Kent, and in the west there are some good fields of wheat. Eastward the crop does not give so favorable promise. Clover is in the same condition as fall wheat, especially the clover that has already stood one or two seasons.

While such is the generally unfavorable character of the reports of our fall crops, there are still grounds for hoping that the wheat may turn out better than present prospects. The lateness of the spring is itself in our favor, as a late spring is always considered an omen of good crops; and much that is now bleak and unpromising may, as the spring opens, do better than is now anticipated.

In anticipation of a scarcity of fodder, much can now be done to provide for wintering stock. A few acres of Millet or Hungarian Grass sown as soon as all risks of a June frost are past, and pro-

perly saved, will give a welcome supply of good hay, that, added to the roots, of which every succeeding year more fully demonstrates the necessity, will tide the stock in good condition over winter.—Should there even be some tons of hay left when the spring opens, it will be no loss. Farmers know the worth of the old proverb—"Old hay is old gold."

The Ontario Agricultural College.

This institution will be opened on the 1st day of May. The pupils are nominated by the various township councils, and pass an examination similar to that for our high schools.

Nothing could show better how little the College was desired by our farmers than the fact that the Government Commission have deemed it necessary to offer a bonus for scholars. Pupils are to be fed and taught and lodged for a year at the public expense, and then presented with fifty dollars.

Who is to pay all these expenses for the sake of the favored few. The poor, struggling farmer of the backwoods, who has all he can do to keep body and soul together, will have to pay his share toward supporting and bonussing the son of some wealthy man who has sufficient influence with the council to gain a nomination, and who could afford to give that son the education to fit him for it.

Two-Year-Old Beef.

In the columns of the present number of the ADVOCATE we publish from the Mark Lane Express a paper on this very important subject. The very high price of meat in England makes the early maturity of cattle a question of the greatest importance there, not only to the grazier, but to all classes.—To us, also, is the subject one of great moment. No little of the superior value of well bred stock is in this early maturity. The general introduction of improved breeds has been a source of great profit to the stock breeder and feeder. The long-legged, large-boned, ill-shaped cattle that were everywhere met with, have given place to well-shaped animals, with fine limbs, that mature early and pay a profit for the feeding. The paper read by Mr. Hayward, though more especially applicable to the high farming and the prices of England, is replete with good advice for us. The Canadian markets, for beef as well as the products of the dairy, are every year improving, and we must study the best means of feeding stock with the greatest economy and of the best quality. The beef and mutton of Canada will, we have no doubt, soon be competing with the rich sirloin of English beef and the loin of Southdown, in the capital of the Empire.

The bran meal and oil cake of Canada will at no distant date, be added to our roots and grain to finish our fat cattle for the Smith-

field market. "The rapid increase of population and consequently increased demand upon the supply" in the home country, will have its effect here, too. Let us go on improving our stock if we are to have our lands yield the full profit of what they are capable. And—improved stock necessitates improved agriculture. —S.

Annual Report of the Commissioner of Agriculture and Public Works for 1873.

In our notice of this work we can only select from its four hundred pages some brief extracts with a few remarks. The narrow limits of the space we can give to it forbid us doing more. The statistics it embraces are not the least valuable part of its contents, but much of the statistical information we have already given to our readers—obtained from other sources. Surely the Bureau of Agriculture might move less tardily.

The Commissioner is "fortunately" able to congratulate the country on its continued prosperity. "In the spring of the past year the prospects of the farmer, in consequence of the prevailing drought, were of a gloomy character, threatening a serious failure to the crops. The welcome rains in June came providentially in time to avert so direful a calamity, and vegetation in most parts of this Province took a start which may be said to have been marvellous."

To what extent a failure such as here spoken of might have been guarded against, or if any timely caution might have been of avail, we are not told. Now, we hold that while the blessings of favorable seasons, of a propitious seed time and harvest, are in the hands of a higher Power than the tillers of the soil or the Board of Agriculture, yet much may be done to avert so direful a calamity as a failure of the crops of the country. Though we cannot cause the refreshing showers to visit our fields, or the parching drought to withhold its too long continuance, we can, by improved agriculture, guard against the failure of crops by excessive drought or moisture, and that in a great measure. The lesson taught us last spring should not be lost on us. Who has not observed betimes, and especially in a season of prevailing drought, the growing crops of the farmer who had spared no labor or expense in the tillage of his soil, with their dark green hue and strong stem, giving promise of abundant yield, even in the driest season, while the fields of his neighbor, with their shrivelled, stunted crops, told in unmistakable language of shallow plowing and impoverished soil. The necessity of thoroughly good culture, deepening and enriching the soil, is a lesson often, though not too often repeated. The absolute necessity of its being more habitually practised is proved by the low average of grain compiled from the returns of Electoral Division Societies, to the Bureau of Agriculture.

Estimated average for the year 1873:

Table with 2 columns: Crop name and bushels per acre. Includes Fall wheat (22), Spring wheat (15), Oats (39), Rye (19), Barley (27), Peas (26).

The difference of the yield of the several divisions is, as was to be expected, very great. Of the sixty-two divisions, there are only three—North Bruce, Dundas and Prescott—that give an average yield of fall wheat of thirty-five bushels; seventeen give an average under thirty-five, but not lower than twenty-five bushels; twenty-five divisions average from twenty to twenty-five bushels, and an average under twenty is returned by seven divisions. This very low average may in some instances be owing to causes over which the farmer has no control, but much of it may be traced to unsuitableness of soil, or its bad cultivation, and, not unfrequently, to badly selected seed. Such poor returns must be a serious loss to farmers. If a given number of bushels per acre—say 20—will fairly remunerate the farmer for his expenditure of time and money, every bushel over that number is so much clear profit, and by as much as there is a deficiency from that yield, by so much is there a positive loss.

Farmers should make it a rule to till no more ground than they can till thoroughly, and to sow wheat only where they have reasonable grounds to expect a remunerative crop. Coarse grains, even if fed to stock, will be found to give a profit, when a poor wheat crop would entail a loss.

"In some sections of the country many of the crops were no doubt more or less permanently injured * though the general results of the grain harvest came but little short of an average."—Report. In spring wheat there is a lower average yield than in any of the other cereals. Only in one section—North Bruce—has there been a return as high as thirty-five bushels, while the very low yield in some sections brings the average of the Province down to the low figure of fifteen and a half.

The average yield of oats has been, of one division, 60 bushels; of eleven divisions, 50 bushels, and of fifty divisions, less than 50 bushels. The low yield of peas in some parts of the country has, as in the case of spring wheat, brought the general average low, though there was in many places a good crop. Rye is but little grown, and its culture little attended to. To the growth of corn the same remark is applicable.

The spring drought has more seriously affected the root crop than any other. Turnips in many parts of the country have been a light crop, though in other parts the return was pretty good. In Haldimand the general average was 1000 bushels; in several divisions the average ranged from 800 to 300 bushels. Of Mangel Wurzel, the returns were from 1200 bushels in Haldimand and 1000 bushels in Glengarry, to 200 in Welland. Carrots from 1000 bushels to 100

Of potatoes the yield has been much lower than we expected. Only in three counties did the average yield exceed 200 bushels.—In Niagara and South Renfrew there was an average of 300, and in South Ontario of 250 bushels. One return has been as low as 50 bushels.

In concluding our review of the results of our agriculture in 1873, let us profit by the experience of our past labors, whether successful or otherwise. Good farming is profitable; bad farming entails a heavy loss.—Good, deep culture and fertility of soil form the best grounds for our expecting a fair remuneration for our labors. Let the seed bed be well prepared, rich and mellow. Wage incessant war with weeds. The report before us says: "A better supply of labor and the general introduction of improved implements and machines would in a short time enable farmers to eradicate weeds which unhappily, in some sections, have so increased of late as to affect most injuriously all cultivated crops." Do not wait for the supply and introduction here spoken of. You can, without those additional aids, subdue and keep under these pests. To do this you must no longer pursue the scourging system of taking from your fields successive crops of grain. Let drilled root crops have their proper place in the rotation of crops, and the plough and cultivator, with a little assistance from the hoe, will accomplish this most necessary part of the farm work.

Eggs for Prizes.

Many a little boy or girl would be pleased to have a few pure-bred birds of one or other of the following varieties.—We have made arrangements with Mr. JOHN WELD to supply us from his choice stock with eggs from any of the following varieties, viz., Buff Cochins, Dark Brahmas, Leghorns, Grey Dorkings, Black Poults, Silver-Spangled Hamburgs, Houdans or game fowls, and Aylesbury or Rouen ducks. We will send six eggs of either variety to your post office, without cost to you, if you send us six new subscribers.

Short Horn Sales.

During the past month the public sales of Short Horn cattle have been more numerous than usual at this season. The prices realized have been very good, in fact, much higher than usual.

J. R. STANTON, THORNHILL (BIRCH GROVE).	
Highest price paid	\$ 600.00
Sixteen females sold for	4240.00
Being an average for each of	265.00
Three bulls sold for	1075.00
Being an average of	358.33
JOHN SNELL, EDMONTON (WILLOW LODGE).	
Highest price paid	\$ 1225.00
Forty-five females sold for	16005.00
Being an average for each of	355.66
Four bulls	1672.00
Being an average for each of	418.00
HUGH THOMSON, ST. MARY'S (KINELLAR FARM).	
Highest price paid	\$ 1015.00
Twenty-two females sold for	10790.00
Being an average for each of	490.45
Three bulls	1090.00
Being an average for each of	363.33

Other sales have come off, but we have not yet received particulars. The highest prices paid at the above sales were by the Americans. Mr. R. Gibson, of London Township, paid the highest price of any Canadian, viz., \$1005 for "Golden Drop 2nd," at Mr. Thomson's sale. Mr. J. R. Craig bought heavily and paid good prices. We also notice that Professor McCandless has been buying for the Agricultural College.

The leading breeders and most eminent stock raisers in the Province of Quebec, will hold a union sale of thorough-bred horned cattle and valuable horses at Montreal, on Wednesday and Thursday, 13th and 14th May next; the advertisement appears elsewhere. We bespeak a large attendance; the names of the contributors and committee are a guarantee that this, the first combined sale, will be as represented. Catalogues will be ready in one week, and will be forwarded on application to John J. Arnton, the Auctioneer, Montreal.

Prize Essay

ON MANAGEMENT OF FARM-YARD AND STABLE MANURE.

In the management of farm-yard and stable manure profitably it is necessary

1st—That the greater part, if not all the stock, should be housed.
2nd—That they should all be housed near together, so that the manure may all be put in one heap conveniently.
3rd—That the manure from the horses and cattle be put in the heap in alternate layers, being spread evenly over the surface. This is of great importance, because the manure from cattle, sheep and hogs is of so cold a nature that if piled by itself, it will not heat sufficiently to kill the seed of weeds, or to be in fit condition for the land in spring. If used in this state for root crops, the expense of keeping down the weeds will be so great as to nearly, if not quite, eat up the value of the manure. If the horse manure is piled by itself, it heats too rapid, and usually fire fangs and becomes almost worthless.

4th—The pile should be made, if possible, on the south side of the buildings, so as to be in as warm a location as possible, to facilitate fermentation. The pile should be kept clear of the building, and care be taken that the water from the roof does not fall on it or run under it.

5th—The sides of the pile should be protected and kept square by placing planks inside of posts, allowing about a yard and a half square to each animal that is to be wintered—more or less according to the size of animals, or the amount of straw or litter to be made into manure through the season.

6th—Care should be taken to have plenty of straw and all the litter possible to bed the stock with. The cattle stalls should not be cleaned out oftener than every third day, the horse stalls every fourth or fifth day.—Every night level down the surface of the manure in the stalls, and cover well with fresh litter. When cleaning do not throw out any litter that is not well saturated with the dung and urine. By this method almost double the quantity of manure can be made, the urine will be saved and will add nearly one-third to the richness of the manure. It will heat and rot more even, and will also be much finer in quality. I am fully aware that there are many that will laugh at the idea of not cleaning the stables oftener, and call it slovenly, &c., but no man who values manure, after giving the plan a fair trial, will think of giving it up.

7th—No stock should be allowed to tramp on the heap. If the heap is trodden the air will be excluded and fermentation will be arrested.

8th—If manure is made in the yard it should be kept as compact together as possible. The yard should not be larger than would barely answer the stock to be kept in it. The buildings should all have eave-troughs, so that no water from the buildings can fall on the manure or flow through the yard. As soon as the manure thaws in spring, it should be all gathered up and put immediately on the top of the heap made from the stables. If there is not room enough without, pull out the plank and level down the heap one-half or more, according to the room required, being careful that all the manure from the yard is placed directly over the heating manure from the stables, so that as the heat raises it will pass evenly through the yard manure. In about ten days or two weeks the whole will be in a fine heat. It should now be turned regularly over, being careful to put the finest and hottest to the outside of the heap, and keeping the cold, coarse part in the centre. If the above directions are fully carried out, the manure will be in excellent condition to put on the land in time for root crops, potatoes, corn &c.

9th.—Unless the manure is wanted for pasture or meadow, the land where it is to be put should be plowed deep the previous fall. The manure should be carted out in dry weather, or otherwise the land will be injured by going on it. Leave the manure in small heaps, and do not spread it until ready to plow; then plow in with a light furrow not more than two or two and a half inches deep. Do not make the common mistake of putting it on too heavy in the commencement, and when the heap is three-fourths out, observe, when too late, that it will not cover half the land you intended. The result will be that one part of the land is so rich that it grows too much tops or

straw, while the other part is so poor that the crop is a complete failure, and you see to your sorrow that half your manure is wasted.

10th—The advantages of the above system are:

First—The manure is ready for use early in the season.
Second—There are no weed seeds but what are destroyed.
Third—The urine is saved, and double the quantity of litter and straw can be used.
Fourth—There is no necessity for expensive sheds or cellars to be built, to keep the manure from the weather, as the compact heap heating rapidly, throws off the moisture so rapidly that there is seldom any more rain than what is required to keep the heap properly rotting.

Fifth—The manure is fine, so that it can be plowed in shallow, so that the young plants feed upon the manure as soon as they commence to grow, and the rich juices of the manure are absorbed by the surface soil.

Sixth—The land does not dry up rapidly and prevent small seeds from growing, as it does when coarse manure is used.

S. H. MITCHELL,
St. Mary's, Ont.

Butter or Cheese?

Written for the Farmer's Advocate.

BY L. B. ARNOLD, ROCHESTER, N. Y.

We are asked whether it is more profitable to make butter or cheese? The answer to this question must depend on several conditions. The prices of butter and cheese do not always sustain the same relations to each other. One may be high and the other low, and this circumstance may decide the question of profit at any particular time. But a reversal of prices may take place, and that which was high will be low, and the one which was low may become high, and then the other product may yield the best return. The prices of butter and cheese are all the time going up or down. They seldom retain any fixed relation long.

The best we can do in answer to the above question is to give the comparative rates of product from a given quantity of milk, and the cost of manufacturing in each case. But then there is no definite amount of milk that can be named as the precise quantity required for a pound either of butter or cheese. We must therefore base calculations on general averages; and as the milk of different breeds do not yield the same relative quantities of butter and cheese, we will take the milk of the common or native cows as the standard of quality, as they are by far the most numerous both in the States and in Canada.

But in the common breed there is great variation in the quality of milk; and then some people make more out of the same milk than others. A well fed and well skeltered herd of natives, whose milk is skilfully cared for and manufactured, will yield a pound of butter the season through from twenty pounds of milk. An indifferent herd, not very highly fed, with inferior skill in making butter, will yield one pound of butter from twenty-eight to thirty pounds of milk. With an average quality of milk of native cows, and with average skill in managing milk, we may assume twenty-five pounds to make one pound of butter, and that the same quantity will make two and a half pounds of cheese. The owners of butter factories make and pack butter in tubs, furnishing everything for \$4 per hundred, as the lowest price. The lowest price for making and furnishing everything for a hundred pounds of cheese is \$1.62, which makes the cost of manufacturing a hundred pounds of butter and two hundred and fifty pounds of cheese differ only 64 cents. The difference in the cost of manufacturing a given quantity of milk into butter or cheese is, therefore, so little, that it may be considered the same in each case. There is considerable difference in the value of the refuse of a butter or cheese dairy for feeding purposes. The whey from 1000 pounds of milk has for two or three years past netted about 50 cents. The sour milk and butter milk from the same amount of milk is estimated at from two and a half to three times that of whey. The difference in the value between the sour milk and whey from a given quantity of milk is equal to \$1 per hundred on the cheese. If 2,500 pounds of milk will make 100 pounds of butter that

sells for \$30, the 250 pounds of cheese it would make ought to sell for \$32.50 to make an equal return for the milk. This would make the cheese 13 cts. a pound when butter was 30 cts. The quality of milk in special cases may vary this proportion somewhat, but as a general rule it will be safe for dairymen to assume that 30 to 13 is the ratio of prices between butter and cheese, to make them equally profitable.

In a herd of Jerseys 16 lbs. of milk would very likely make one of butter, and but two pounds of cheese. In such a case the cheese would have to sell at 16 cts. to equal butter at 30 cts.

In a herd of Ayrshires that would require 26 lbs. of milk for one of butter, 2 1/2 lbs. of cheese might be made instead, when cheese at \$11.90 per hundred would be as good as butter at \$30 a hundred.

Last year there were fifteen butter factories in Franklin Co., N. Y. that, by using the Jewett pan, averaged 1 lb. of butter from 23 lbs. of milk, which, when converted into cheese, would have made but 2 1/2 lbs.—When their butter was selling for 35 cts., cheese was selling at 13 cts. It should have been 16 cts. to have been as profitable as making butter.

Prize Essay

ON THE PRUNING OF APPLE TREES.

"Practice Before Theory."

Written for the FARMERS' ADVOCATE by ABDEL GEO. DEADMAN, DELAWARE.

I presume the general object of pruning the apple, as well as all other fruit trees, is to promote the growth, add to its form and symmetry, increase its productivity, and to enlarge its fruit. To insure these requirements and conditions, I propose to offer a few suggestions:

1st—The proper time when it should be performed.

2nd—In what manner it should be done. It is impossible to give an exact date that would apply to all parts of such an extensive country as the Dominion of Canada. But as a general rule, never before the first of April, up to the time the buds remain dormant, after the severity of the winter is passed. But I have found from a long experience, as a safe guide applicable to all parts of the country, is immediately after the season of sugar-making is over, or about when the sap is getting sour. Whether the season is early or late, this is the most convenient time for the farmer and fruit-grower. The surface of the cut then made cauterises and hardens sufficiently by the slight frosts that generally follow, without deadening back the sap wood at the edges of the cut too much, which would prevent a quick healing over of the wound, or an escape of sap which generally blackens the wound and seems very poisonous in its action.

We should especially avoid pruning at that period when the buds are swelling, and the sap is in full flow, as the bleeding or escape of sap is very injurious to most trees, and generally brings on a serious and incurable canker in the limb and surrounding parts.

Again, never prune in winter, as the succeeding frosts will kill back the alburnum or sap wood so far down from the edges of the cut that it causes a long time to elapse before it ever properly heals over, causing serious cracking over of the surface, admitting rain and moisture, in fact, in many cases where large limbs have been severed, causing a decay which frequently extends to the body of the tree, leaving it worse than dead. The old orchards throughout the country too plainly tell of its effects.

Again, I find from the 10th of June to the 1st of September the best season of all.—Wounds made at this season heal over freely and rapidly; it is the most favorable time to judge of the shape and balance of the head, and to see at a glance which branches require removal, and all the organizable sap in the tree is directed to the branches that remain. But from the pressure of work at that time with most farmers, it is most inconvenient, and almost entirely prevents its general adoption, though to the amateur or man of means it is the most desirable time of all, and the earlier the work is done in the above named time, the more satisfactory will be the result.

2nd—How to prune.

This seems so simple a thing, that every school boy fancies that he can cut or saw

limb off as well as a son; but it must be our old gravelled sections of the c decaying condition most of the old o plorable ignorance has been the cause

First, then, b comes from the r branches more or loss of roots by r should have three on each side, form nothing more is taking out all sup interfere with or are annually after their growth, the done in after year or the extremity thinned out, to a parts of the tree. shape when first p two side branches down to near the growth and comm as a tree not well satisfaction in hea let me caution eve more than three o to be the groundw the tree, and I there the great e allowing too many few years may n which in after ye come so much er necessitates the large limbs, whic if it can by any n

The great secr from the outside, inside—that is, th the branches to o the centre of the every branch fro the outside crow small branches fr centre, as though up for firewood, many bare poles more of the leadi becomes too mu these small bran of fruit. I find long handle sever lent for thinning tremities of the l at most hardwar person can readily any tree 10 to 15 supporting stand

Next, never cu the trunk or main but from an eight ing to the size of f above the swelling, that is to be rem when large bran close, the main li was taken increa ence before the hollow is forme severed, in which causes great deca parallel with the was taken, never leaving one side o other, which do torily, and whic cut has been ma from the main li

Always prune bearing, as it en cuperate from the previous crop, an in the growth of spurs for the nex mind to prune ac of the tree, nev tree is in a very t be rather detrim health of the tre suddenly arrested to force a useless out the body of t pruning the next If a tree is in an ing but a feeble prune heavily, v vigorous growth tree does not mak annually, even i sign that the tre pruning and man

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limb off as well as the most experienced person; but it must be apparent, in passing along our old gravelled roads, through the older sections of the country, on witnessing the decaying condition and unsightly forms of most of the old orchards, that the most deplorable ignorance and want of knowledge has been the cause of their present decay.

First, then, begin as soon as the tree comes from the nursery by cutting back its branches more or less, in proportion to the loss of roots by removal. If well grown, it should have three or four leading shoots, one on each side, forming a well balanced head; nothing more is necessary than annually taking out all superfluous shoots that would interfere with or cross each other. If trees are annually attended to at this period of their growth, there remains very little to be done in after years but keeping the outside or the extremities of the branches well thinned out, to admit the sun and air into all parts of the tree. If a tree is not in a good shape when first planted, with only one or two side branches, cut these away and head down to near the bottom of the last year's growth and commence and form a new head, as a tree not well balanced will never give satisfaction in health or appearance. Here let me caution every person never to allow more than three or four branches to remain to be the groundwork for the formation of the tree, and I am firmly convinced that there the great error has begun, in leaving or allowing too many limbs at first, which for a few years may not give much trouble, but which in after years causes the tree to become so much crowded with wood, that it necessitates the removal of many of the large limbs, which should never take place if it can by any means be avoided.

The great secret is to prune your trees from the outside, and not so much from the inside—that is, thin out at the extremity of the branches to admit the sun and air into the centre of the tree, instead of taking out every branch from the inside and leaving the outside crowded; never cut away all the small branches from the main limbs in the centre, as though they were being trimmed up for firewood, or made to look like so many bare poles—rather removing one or more of the leading limbs of the tree, if it becomes too much crowded, as it is from these small branches we obtain our first crop of fruit. I find a small saw attached to a long handle seven or eight feet long, excellent for thinning out the branches at the extremities of the limbs; they can be bought at most hardware stores, and with them a person can readily and easily reach around any tree 10 to 15 years old; after that a self-supporting stand is convenient.

Next, never cut off the branches close to the trunk or main limb (unless very small), but from an eighth to half an inch, according to the size of the branch cut off, and just above the swelling at the base of the branch that is to be removed, from the fact that when large branches are cut off level or close, the main limb from which the branch was taken increases so much in circumference before the wound heals over, that a hollow is formed where the branch was severed, in which the wet gathers and often causes great decay. The cut should be made parallel with the limb from which the branch was taken, never sloping up or obliquely, leaving one side of the cut longer than the other, which does not heal over satisfactorily, and which will also be the case if the cut has been made at too great a distance from the main limb.

Always prune the year the tree is not in bearing, as it enables the tree to fully recuperate from the weakening effects of the previous crop, and will give it new life, both in the growth of wood and formation of fruit spurs for the next crop—always bearing in mind to prune according to the state or vigor of the tree, never pruning severely if the tree is in a very thrifty condition, as it would be rather detrimental than beneficial to the health of the tree, as the sap would be so suddenly arrested from its usual channels as to force a useless growth of suckers throughout the body of the tree, causing a second pruning the next year worse than the first. If a tree is in an unthrifty condition, making but a feeble growth annually, always prune heavily, which will induce a more vigorous growth—remembering that if any tree does not make eighteen inches of growth annually, even in a bearing year, it is a sure sign that the tree needs stimulating, both by pruning and manuring. But in most cases

all that is necessary is to remove just enough to produce a healthy growth of wood.

Every tree, as a common standard, should be allowed to take its natural form, always following nature in its teachings, the whole efforts of the pruner going no further than to take out all weak and crowded branches; but by no means try and convert an upright grower, like the Northern Spy, into a horizontal grower, like the R. I. Greening, as it would assuredly be at the loss of part or whole of the tree, when it has to sustain the first heavy crop of fruit. And again, to prune intelligently and with a view to profit, all trees should not be pruned alike; this can only be acquired by practice, after a thorough acquaintance with the manner in which the fruit is borne on the branches of different varieties.

Never allow one leading limb to occupy a place immediately over another, as it excludes both the sun and air, causing the fruit to be discolored by the constant drippings from above, and the fruit would be worthless both in color and flavor.

In renovating very old orchards that have long been neglected, when the trunk and main branches are still sound, the trees should have the entire top cut off, cutting down to where the limbs would be six or eight inches through, which would cause a vigorous growth of young wood—selecting therefrom just sufficient to form a new head and at the same time scraping and washing the tree with weak lye, and manuring and cultivating the orchard for a few years following, always covering over the wounds when large limbs have been removed, with grafting wax, to protect it from cracking and to keep out the moisture and air, and to keep the newly cut wood in a sound state until it is covered with a fresh layer of bark.

Correspondence.

RAILROAD INJUSTICE

As you profess to advocate the farmer's interest, I wish to call your attention to the rascally imposition to which we farmers are subjected. In shipping a car-load of cattle from London to the Suspension Bridge, I have been compelled to pay \$33 for the distance of 119½ miles; at the same time I meet with American drovers who have shipped their stock from Windsor or Detroit, a distance of 229 miles, for only \$28 in greenbacks for a similar car-load. It is my opinion that farmers have not, nor ever will have, fair play, unless some organization for their protection is formed. There can be no justice to us in compelling us to pay nearly three times as much for the use of our railroads, for which we have been indirectly taxed, or to which we have paid large bonuses. Many farmers may not see the way they pay the monopolists; the price paid for freight on stock is only so much money less in the farmers' pockets. Also, at the present time, drovers that ship at Windsor or Detroit can be furnished with a return pass, free, but a Canadian, after having to pay such additional charges as the railroad authorities deem fit to exact, is also compelled to pay for his return fare.

JOHN NIXON, Westminster.

[We have long since been aware that a species of extortion has been practised by the railroad Co.'s in many places where they can do so; but, as yet, farmers are not fairly represented among the controllers of affairs; we hope they may yet become more united. Ed. F. A.]

THE PATRONS OF HUSBANDRY.

SIR,—Seeing that this organization is creating so much interest amongst the farmers, I, for one, would like to see a lodge started in this vicinity. There are many farmers yet to be made alive to their own interests in the rural districts of this fair Canada of ours—those who do not take and carefully read such an invaluable paper as the *Advocate*. There is the ground for the Patrons of Husbandry to work upon. Let this institution once get in and do the work it is intended to do, and the result will soon be made manifest. The fact of the matter is, if the farmers in general would organize and discuss the various subjects introduced in the *Advocate*, instead of so much gossiping, as is too often observable, it would indeed be too to their advantage as well as to the advantage of society at large. Moreover, I cannot see why the farmers shall not have an association as well as the mechanic,

the merchant and the professional man. There might be a great deal said on this subject, Mr. Editor, but I will draw to a close—hoping ere long to see a lodge organized in this vicinity, and thanking you for the benefit I have already received by reading your paper. I am, etc., Plympton, April, 1874. T. DOHERTY.

OBNOXIOUS WEEDS.

SIR—I see in your March number that you give foreign countries a great deal more credit than they deserve in the way of obnoxious weeds. Now, I believe the most part, I don't say all, are indigenous. I think our old acquaintance, the Wild Oat, is, for I can show you a bed of them in the summer time in the wild woods, a mile and a half from any clearance or road. I came across them unawares, and immediately acknowledged them as an old acquaintance. I had forgotten the place where I had seen them, but a neighbor came into my house, and said he fell in with a patch that happened to be the very one that I had seen, so I concluded that they were natives. Then again, the Scotch Thistle, they are now growing in a cedar swamp belonging to myself. When first I saw them there was not a clearance for a mile or two from where they grew, and of course no road was or ever will be near them, and there they are to this day. There is also the Canadian Thistle. Now, you grass out a piece of land that you are sure is perfectly free of thistles, and let your hogs on it in the spring, and they will root and tear it to your heart's content, and if you have not a good crop of thistles after that you will have better luck than I or any of my neighbors had. The next I will speak of is the Wild Flax, a very troublesome weed. I had a piece of land that I thought was free of weeds of all sorts. I sowed it to grain, and the Flax came up nearly as thick as it could grow. I know that the land, after it was sown, before it was finished harrowing, got some rain and became sodden—that was the cause of it—a dead, heavy soil is its favorite. I could speak of many more, and shall at some future day, and if any of your readers can contradict what I have said, I wish them to write it, and I shall receive it with pleasure, for I think, above all men, farmers should exchange sentiments with each other, and give each other the benefit of their experience, and it will act for their mutual welfare. FRED. SQUIRE.

[We are pleased to hear again from our correspondent F. S., and though he differs in opinion from writers who are generally considered good authorities on agricultural matters, we publish his remarks on the subject referred to—Naturalized Weeds. We have not ourselves verified the statement we quoted from the *New York Tribune*, that "214 of our weeds have been introduced from foreign countries, and chiefly from England," but we have no doubt of its general accuracy. The reasons given by the writer for his opinion are:—

Strong *prima facie* testimony in its favor, at least till rebutted by proof of a stronger character than is yet produced. The fact mentioned by F. S., that he has discovered a bed of Wild Oats in the wild woods, far from any clearance, is not sufficient testimony of their having been indigenous there. Might not the seed have been brought there by some agency unknown to us? and a similar agency may have produced similar results in the swamp where the Scotch Thistles are now growing. It is wisely ordained, by laws more unalterable than those of the Meles and Persians, that plants are perpetuated and easily propagated in different climates; and that many various agents are incessantly, though for the most part unconsciously, disseminating the seeds of plants to the most remote regions. A little bird, in its morning meal, carries a berry or seed to a place many miles from its native home, and there it is the germ of a tree or plant.

Little did they think, who deposited with the embalmed corpse of an Egyptian prince in the tomb a few grains of the wheat of the country; that they were thereby the means of preserving for seed for other continents and for a time in the far distance of thousands of years—and yet it was so.

It requires more enlarged opportunities of enquiry and research than have fallen to Mr. S. to determine the number of plants, weeds, &c. for which we in this continent are indebted to Europe. And, *per contra*, the Old World is indebted to the New for many valuable additions to her indigenous products. But we must give our correspondent credit for his use of that useful faculty—Observation, and for his communications to us. A farmer who sees things with keen, observing eyes and with common sense, possesses much of the elements of success.—S.]

SIR,—In your March number your correspondent, M. M. heads an article with—"Shall we show ewes or wethers," and as you solicit the opinion of exhibitors and prize takers, which I can lay some small claim to be classed with, I think sir, we shall continue to show our

wes and heifers instead of steers and wethers as suggested. One object in offering prizes is to encourage the importation of blood stock into our country, counties and townships, and another is to encourage the breeding and management of them. We think if the change was made, the prizes would go to the breeders of a more inferior or grade stock, as the breeders of our best blooded stock would not like to make steers and wethers of their best bulls and rams for the sake of taking a prize. I will admit that there are cases where good stock is injured from high feeding but I think there is far more injured for the want of good care and feeding. Your correspondent, M. M. advocates keeping young stock, which I agree with, and if that is done they will not be wanting when they come into the show ring. The main thing at our fairs would be to get competent judges, that would go for quality and purity of blood rather than fat, as is often the case. And if over fat, withhold the prize altogether. But I hold that stock should be in fair condition to entitle the owner to a prize.

There is one point on which the managers of many of our Agricultural Societies get astray, that is, in classifying sheep as "Long Wool." I think we should endeavor to keep our different breeds that have proved themselves worthy, as pure as possible, and if some one should by judicious crossing establish a new and valuable breed with permanent characteristics, then make a class for them. JOHN JACKSON.

Abingdon, April 13th, 1874.

AGENTS.

SIR,—I notice in your last issue a reply to my former letter concerning agents, from one of themselves. No doubt, looking upon the matter from his standpoint, he has made a good reply, but taking it from a farmer's point of view, I will show where his argument fails.

He states that farmers all over the Dominion and especially those in new settlements have the agents to thank for a great many of their necessary comforts, and if there had been no agents they would not have had their fruit trees, their sewing machines, their farming implements, &c. Now, this would be all well enough if the agents made presents of the articles to the farmers, or even if they did not charge enough to pay for their own time and heavy expenses. I agree with him when he says that few farmers go to the manufactory and purchase, or to the nursery and purchase, but wait for the agent and buy from him. But why is this the case? Simply from the fact that the manufacturer and the nurseryman have put 50 or 60 per cent. extra on their charges in order to pay the time and expenses of the agents, and, in order to protect these agents, will take no less at the manufactory or nursery. Now suppose they had no agents to protect or pay; they would be able to sell their goods just that much less, and make just as much profit for themselves.

Who is it that pays the time and expenses of these agents? Why, the farmers, of course. The manufacturer is not going to lose anything by them. He must set his price high enough to pay all this!

When a man commences to manufacture or starts a nursery, or anything of that kind, what calculations does he make in fixing the prices to sell at. Look at a sewing machine manufacturer, for instance; say one of our \$45 machines:

1st—Cost of manufacturing material, time, &c.	\$15.00
2nd—Profits for manufacturer	7.00
3rd—Commission to canvassing agent	15.00
4th—Commission kept by general agent	8.00

Costs the purchaser \$45.00

Look at that, my brother farmers, and see how dearly we pay for our whistles. Those self-sacrificing agents are very evidently working for your benefit. On a great many other articles the commissions do not run so high, but they usually run from 25 per cent. up to 75 per cent; and yet they profess to do all this work for our benefit.

But the gentleman says: "Oh, don't buy from the agent; no one forces you to do so.—Why don't you say NO to him, and then he'll stop?" But then, we want these articles he is selling; they have become necessary to us. What are we to do? Must we continue always to give \$50 for what is worth \$20, and sell our produce to some other middleman, who will take another shave out of us.

This agency business cuts us both ways. We have to buy dear and sell cheap. Who pays all these drummers that continually travel the country from the wholesale houses, selling to our merchants—these swells who dress so neat and look so sweet, who live on the fat of the land. Go to any hotel in the country and there are one or two of them on their travels. They have the best rooms, the chief seats at the table; the host and hostess run to do their bidding. Common farmers can wait. I say, who pays for all this? Is it possible that we do so when we buy a few yards of calico, or our tea, or sugar, or our Sunday suit with our hard-earned money?

Oh, my friends, this thing must be stopped. Can we not unite to do our own business? Why cannot we join together and buy wholesale? Can we not sell in quantities ourselves? Is there no means of escape from this worst of tax-gatherers, the Commission agent? E. D.

Wingham, April 6th, 1874.

SPRING WHEAT.

SIR,—I send you by parcel post a small sample of Spring wheat of the produce of a fraction over 50 bushels to the acre. The result obtained was as follows:—Four years ago I purchased two bushels of good wheat, grown in Canada—one bushel from Chicago and one from Milwaukee. I mixed them together and sowed it—yield about 25 bush. Next year I took one-third of wheat sown and one-third from each place as above; the same quantity, and sowed it—yield, 37 bush. Next year sowed two-thirds of wheat grown myself and one-third from 15 miles north—yield, 42 bush. Next year sowed wheat all grown by myself—yield, over 50 bush. to the acre. The last crop was on carrot and turnip ground, the previous year. I put 4 good loads of manure to the acre, and after the wheat showed above ground 150 pounds of salt and 100 pounds of plaster, well mixed, to the acre.

My idea is to select seed from large crops of wheat, from two or three farms, the further apart the better. My supposition is, that there are male and female plants in all seeds, and in growing they do their sparring as natural as animate things; and by mixing it is like crossing breeds to get good stock. After getting up a good prolific stock, keep without mixing for a couple of years, then mix freely for a better breed. Goderich. FARMER.

SIR,—I noticed in your valuable paper an article about leached ashes. The way I used them was this:—I fitted my ground for Fall wheat, ready for sowing, put 10 or 12 loads to the acre; put on the grain, harrowed it in the usual way. It came up and grew rapidly in the Spring. It started sooner than other wheat, however near by, and kept ahead. The straw was the heaviest and largest I have ever seen grown on ordinary sandy soil, but rather below the average quality. When shooting in head it was killed by frost. What the result would have been if this had not occurred, it would be difficult to say. Since then the land has yielded more corn, potatoes, oats and clover than the land in the same field.

A year or two after I took an eight acre field of light, sandy soil; yellow loam and spots of clay. The field was rather low and part poor. The yellow ridge was very poor, it would not pay for putting in grain. One-half of the field (the sandy part) I top-dressed with barnyard manure, after fitting it up for sowing; and part of the remainder I top-dressed with ashes. This time I put on six loads to the acre, as near as I could without measuring the land. I put on the wheat and harrowed it. In the fall it did not show a great deal of difference; when the snow left in March the wheat showed no change from the Fall, but when the frost had full play at the wheat, and no snow to protect it, the change was rapid. On the part that had no top-dressing the wheat gradually disappeared; the part manured was not more than half a crop; the part dressed with ashes was an average crop—grain plump, straw-bright and head long. The frost was unusually bad that spring. I put ashes on a small piece after the wheat was finished. It did not have the same effect as when harrowed in with the wheat. A FARMER. Pelham, April 6, 1874.

LAMPAS AND WOOLF'S TEETH.

Would you inform me through the ADVOCATE whether, woolf teeth and lampas are injurious to young horses or not. I am taking your paper and like it very much; and I have a span of good young horses, and both have woolf teeth, and would like to know, whether it would be best to knock them out or not. Wm. W. Lakeside.

To the Editor of the Farmer's Advocate, SIR, Lampas I consider are more an imaginary than a real disease, it is generally owing to the young animal shedding his teeth, the gums coming more particularly into wear and tear. Sometimes it may be advisable to scarify them nicely and then apply some cooling astringent lotion in order to harden and contract the gums, but as to burning and cutting out of the lampas as the old farmers term it, I consider it unscientific as well as cruel; nature

will in most cases regulate itself as soon as the permanent teeth are fully established, when the difficulty is completely obviated. As regards woolf teeth they by many horsemen are considered to be a very formidable disease as affecting the eye and causing blindness and many other evils. The Veterinary Surgeons of the present day consider them harmless; unless growing to an unusual length, and protruding into the mouth, consequently interfering with mastication. In such cases have them carefully removed by the Veterinary Surgeon, who is generally fitted with the forceps and all necessary appliances for that purpose. J. H. WILSON V. S. London.

FARMER'S CLUBS.

SIR,—There are four formed, having for their object the improvement of agriculture, both in the science and practice of its members; also the discussing and adoption of a scheme which shall insure to the farmer the best returns for his agricultural products, and most profitable means of importing his farm implements and staple commodities. After investigation we found that we were paying the extortionate advance of 25 to 100 per cent. on goods bought in Toronto which is caused by 10 or more middlemen being where one is sufficient; that agents of agricultural implements are to a great extent unnecessary, and in the usual way of conducting their business a burden and a nuisance; that a great deal of good can be done by the interchange of ideas on practical agriculture; that secrecy in our business is necessary, and that a more perfect and extensive organization is necessary that we may better the existing state of things, therefore we have organized three Granges in the vicinity feeling satisfied that they are just the thing we want, till we have a National Grange, and are separated financially from the United States, which we expect to take place before long. The idea of Granges seems to have taken a fair hold in this quarter there being four or five in prospect besides the three already formed. I think all these things are the inauguration of great reform in the commercial relations of the country; and dawn of better times, when farmers will be more intelligent, and shall enjoy a far greater amount of social happiness than they do at present. J. C. St Vincent.

Patrons of Husbandry.

Granges' Work.

The Grand Master of the Illinois State Grange, Mr. A. S. Gelder, used the following terse language recently, in speaking of the Granges: "An important part of our work—and the most important part—is to educate; every other good will follow this. The power to adjust remedies to meet evils, political as well as others, will come. An intelligent class, organized for diffusing information as to facts and measures—as to men, their history and character—cannot well be deceived or greatly imposed upon. Organized and actually at work for such a purpose as this, we are building for ages, and our influence will be a beneficent power extending into indefinite periods of time."

The Granges.

This order, called Granges, is gradually spreading its roots in Canada. Since our last issue 8 more Granges have been established in Ontario. The majority of the farmers to whom we have spoken are in favor of the movement, nearly all admit that something of the kind is required; but farmers as a body or individually are not half as quick to take up any new scheme as citizens, especially if a small sum of money is to be touched; however, the work is progressing quite as fast as the most sanguine had any expectation of, in fact, faster than the Deputy anticipated.

We expect to be able to report the organization of our Dominion or Provincial Grange shortly. We would suggest to the friends of the movement that it would be to their advantage to be among the first to organize and make our by-laws for the Canadian Grange. We think it would be well to have a good, fair representation at our first meeting. There are now nearly enough Granges established in Canada to have our Canadian Grange.—We presume the masters of the Granges will soon be called together to elect their officers for the Dominion or Province.

Have your Grange organized, and be ready to take part and be represented at that time.

There is considerable opposition to be met with in carrying out any plan, and, of course, the Granges are no exception to the general rule. A very great number of the inhabitants, and particularly the talking class, are not farmers; they are not eligible as patrons. Many of them have influence among farmers, and some of them are using their power to obstruct the movement; all manner of cries are got up to frighten.

With some weak farmers they may be heeded; some farmers refuse to have the wool pulled over their eyes, and look forward to the time when the patrons will be benefitted. We have not as yet heard any argument that has in the least changed our views regarding the movement. If we had the remotest idea of the movement being in any way detrimental to your interests, we would not risk the reputation of our name or that of your journal to the advocacy of such an order. We wish to act fairly to all and give all an opportunity of expressing their views on any important question.

If there are any of our readers who are opposed to the spread of the order, we shall be most happy to find space in this journal for them to express their views against it. The name of the writer will have to appear.

Granges Organized Since Last Issue.

- March 27th, "Georgian Grange," St. Vincent: A. Gifford, Master; P. O. Address, Meaford. Wm. Clark, Secretary.
March 31st, "Sydenham Grange," Sydenham: J. F. Rogers, Master; P. O. Address, Woodford. Matthew Gardner, Secretary; P. O. Address, Woodford.
April 1st, "St. Vincent Grange," St. Vincent: Henry Palmer, Master; P. O. Address, Meaford. H. M. Marshall, Secretary; P. O. Address, Strathnairn.
March 18th, "Elgin Pioneer Grange," Yarmouth: Stephen Wade, Master; P. O. Address, Union. E. D. Scott, Secretary; P. O. Address, Union.
April 13th, "Delaware Grange," Delaware: William Weld, Master; P. O. Address, London. R. C. Hammond, Secretary; P. O. Address, Delaware.
"Union Grange," Yarmouth: Stephen Wade, Master; P. O. Address, Union. E. D. Scott, Secretary; P. O. Address, Union.
"Pelham Grange," Pelham: S. W. Hill, Master; P. O. Address, Ridgeville. W. Pemberton Page, Secretary; P. O. Address, Fonthill.
"Lundy's Lane Grange," Stamford: Anson Garner, Master; P. O. Address, Drummondville; Walter Ker, Secretary; P. O. Address, Drummondville.

CORRECTION.—The address of "Winchester Grange" is Cass Bridge P. O., instead of Winchester, as mentioned last month.

Japanese Peas.

Just as we go to press, we receive from the United States a package of peas bearing this name, and some circulars describing their wonderful qualities. We don't place any too much reliance upon things about which such a big trumpet is blown as 200 bushels of peas to the acre, we will not sell them, but in order that our subscribers may receive benefit, if there is any, we have determined to put three of the peas in each prize package we send out during this month, (see advertisement of novelties on last page,) as we charge you nothing for them, we guarantee none of the statements concerning them; we can only say that they are a different looking pea from any we have before seen, having a slight resemblance to a bean of a yellowish color.

Emporium Prices for May.

Table with 2 columns: Item and Price. Items include Western Corn for Seeding, Millet, Hungarian Grass, and Silver Hulled Buckwheat. Prices range from \$1.50 to \$2.50 per bush.

We can supply no more Spring Wheat.

Garden, Orchard & Forest.

PRUNING FRUIT TREES.

Dr. H. Clagget in a communication to the Rural World of the respective merits of high and low pruning, remarks as follows:

The practice of pruning down low heads and close planting is, I believe, of comparatively recent date—has had and perhaps still may have many admirers. But with careful, observing, experienced fruit growers, it has had its day—run into the ground, and the success of fruit growing. For it is progress backwards, downwards and in conflict with the natural laws of tree and fruit development.

Every tree and plant we cultivate grows and develops according to natural laws, and requires for its high development, certain conditions. To obtain the best results we must seek to find out the best conditions, and work in harmony with and aid nature in supplying them.

Every tree and fruit are made up of elements collected from the earth and air. The elements collected from the earth are collected by the roots and pass up through the stem and branches into the leaves, where they combine with the elements from the air, from which the compound vitalized elements pass to the development of the tree and fruit. The roots and leaves, then, being the chief working organs of the tree, we should see to it that both these classes of organs are supplied with the conditions best adapted to the perfect performance of their functions.

The important inquiry, then, with every fruit grower as well as cultivator of any other plant should be—what are those best conditions? With the confident assurance that, in proportion as he supplies them, will be the measure of his success.

The leaves require fresh air and sunlight, and perform their functions perfectly or imperfectly, as those elements are adequately or inadequately supplied. If, then, we would meet the requirements of nature, we must adapt our mode of pruning to the climate in the natural supply to these elements. In the humid climate, and consequent deficient power of sunlight, in England, very open heads are required; but it will not do in this country to run into the opposite extreme. We should sooner expect to develop children into healthy, robust men and women, crowded together in an imperfect ventilation and poorly lighted room, than expect to develop healthy, long lived, fine-bearing fruit trees in a closely-planted, low-headed orchard.

THE CANKER WORM BEATEN.

In 1870 the canker worm made its appearance in my orchard, and took the leaves off of three or four of my thirty-nine trees; in 1871 they took the leaves from all but ten, and in 1873 I thought I would head them by putting bandages of cloth around them and smearing them with tar every day. But it did not stop them; plenty got over the tar to take every leaf off, except one limb about as thick as my arm. In 1873 I applied the rope and tin in this way:

I nailed a rope tight around the tree, took tin five inches wide and nailed it on the rope, half the tin above the rope and half below it. I put it on with three-penny nails. After I put the tin on I took lime and sand and made a thin mortar, and poured it on the rope to stop any holes that might be left. When the tin gets full below they will get on the tin, but won't go down above to get on the tree. I saw them on the tin (that is, the moth), but did not see one above it. I have known some to try it on a few trees and condemn it because it was not successful. If the trees don't stand more than two rods apart, the wind will carry plenty of the worms from one tree to another to strip it. My trees stand fully two rods apart, and in 1872 they were one complete mass of webs, made by the wind carrying the worms from one tree to another. My trees measure from two to four feet in circumference, and it did not cost me twelve cents for each tree.—R. M. M. in Prairie Farmer.

NOTES ON PROCURING, KEEPING, AND PLANTING SEEDS AND TREES.

Evergreens and larch should always be procured from reliable nurserymen, and the trees used should have been previously transplanted. Avoid exposure of the roots to sunshine or drying winds. Plant larch early.

The seed of ash may be gathered sometimes later, spreading thinly, freezing a little, v. Keep seeds covered. These seeds, and should be planted grow quite general borders of stream any locality in I. Silver maple ar seeds in May or be planted soon a to grow. Young cottonwood, whic species, grow nat sand bars and sl sippi and Missou may be procured sons away from know where to dress Judge C. Manone County for reply.

All poplars (i all willows, will Walnuts, but acorns are best low piles, say fo or on the surfac tered situation, or on a south-si hay, and so a stand among th Plant nuts or three inches de or sandy soil, shallowest.

Seeds of ash and the ashes say from Oct. 1 or earth, moist protected from be taken not to seed together, Honey locust frozen over wi in that way th growth the fir to hot water, r signs of swell into the groun osts are being Small trees in trenches m thrust into th to leave a spa of the tree; y pressure of th place. In me well. Good forestry.

It is to b plant trees t they compete not, for enou monstrate the excellent pr what data we be produced o of trees, if v trees to com twenty years

TRAN B. J. W. A The first location, and ple tree will almost any s tention. Th drain d so th oots, or on and cultivat inches or mo The best elevations, w stone or gra from the sou am of the p if well and good results ble and las enough to r apple. For rapid growt ing or durab We cannot the apples. candition p that on any and throug the young permeate food, carr ramifying t ture until beautiful with its ri

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The seed of ash-leaf maple and the green ash may be gathered as late as March 1, and sometimes later, and if moistened a little by spreading thinly upon the ground and so freezing a little, will be almost sure to grow.

Silver maple and red maple, both known as soft maple, and all the elms ripen their seeds in May or June, and their seeds must be planted soon after ripe, or they will fail to grow.

All poplars (including cottonwoods) and all willows, will grow readily from cuttings.

Walnuts, butternuts and other nuts and acorns are best kept over the winter in shallow piles, say four inches deep, in trenches or on the surface of the ground in a sheltered situation, or in a thicket, under a shed or on a south-side hill, covered with litter or hay, and so arranged that water cannot stand among them.

Plant nuts or acorns in drills from one to three inches deep, planting deepest in light or sandy soil, and planting smaller nuts shallower.

Seeds of ash-leaf maples and hard maples and the ashes may be gathered in the fall, say from Oct. 1 to Nov. 1, and kept in sand or earth, moist, but not wet, and should be protected from severe freezing.

Small trees plant easily and rapidly either in trenches made by a plow or with a spade thrust into the soil and leaned forward so as to leave a space behind the spade for the root of the tree; when withdrawing the spade a pressure of the foot will secure the tree in place.

It is to be hoped that all who can will plant trees for permanent groves, whether they compete for the premiums offered or not, for enough has already been done to demonstrate that groves can be planted with excellent profit.

The first essential in tree planting is the location, and preparation of the soil. An apple tree will grow almost anywhere and in almost any soil, with the proper care and attention.

The best results perhaps obtained are on elevations, with a slight sandy loam, with lime stone or gravel subsoil, protected if possible from the southwest and north winds.

We cannot always choose, but yet must have the apples. To bring your land to the best condition possible and go ahead. Bear in mind, that on any and every soil there must be deep and thorough cultivation, so that the roots of the young and growing tree may spread and permeate the whole soil in reach of its natural food.

Should always be serymen, and the been previously osure of the roots nds. Plant larch

The next step to be taken is to produce the tree. Do not plant an inferior or imperfect tree if you can help it. If you have had no experience yourself, the nurseryman will tell you what kinds will suit your locality best.

In raising a young tree from the nursery rows, we get all, or most of the fibrous roots; they start from or near the collar of the tree, while in older or larger trees they grow from or near the extremities, which are cut and destroyed in lifting them from the rows.

While your large tree, that was so fine above ground, is now a wreck—a home for the grubs, failure and disappointment, your small tree, scarce as high as your shoulder nor larger than your finger, has thrown out its vigorous arms to the sunlight, wooing and gathering the gases that nourish, distilling and elaborating the sap as it is pumped from the roots which now spread in all directions, searching for the food necessary for this fruit, producing machine.

No gorgeous tomb may enclose your remains, nor stately column mark the spot, no costly marble record your deeds, yet there stands that graceful tree, a living monument, a growing record.

The difficulty in keeping the potato onion or English multiplier over winter has gradually caused their cultivation to be discontinued.

They may be kept successfully until spring by placing them in piles as for potatoes. Cover to such a degree only that they will freeze solid.

The Western Rural advises all having this bulb to plant in autumn, if south of latitude 41° N, as heretofore directed; if north of this latitude, to bury for winter unless the means for protection be at hand.

A correspondent of the Rural Press says:—I have discovered by a practical test that cayenne or red pepper (capsicum) will destroy cabbage lice or cabbage mildew.

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AGRICULTURAL. HOW MUCH DOES FARMING PAY? A Practical Answer.

The question so frequently discussed in the agricultural papers of the country, "Does farming pay?" having been fairly settled affirmatively, the next question in order would be, "How much does farming pay?"

For the same reason many farmers occupying good farms barely support their families, when they should have a surplus over all expenses of the farm and family of several hundred dollars a year.

Eight years ago I purchased a farm in the western part of this State (New York), and was told that I could not make it pay five per cent. on the investment.

Now for the result. Last year my cash sales from the farm were \$3,520.31, and my expenses for labor, feed of teams and stock, repairs, tools, taxes, &c., were \$1,739.08, leaving a net balance of \$1,781.23.

Net cash receipts.....\$1,781.23 Family supplies..... 750.00 Rental of house..... 400.00 Use of horse and carriage.. 200.00 Total.....\$3,131.23

The farm with its improvements has cost me \$15,000; but it is now worth \$20,000, and would sell for that if in the market.

But the ledger cannot express all the indebtedness we owe to the farm. There is a long list of benefits incident to and inseparable from the farm, which we cannot measure by a money standard.

Every farmer uses more or less seed of the different grasses and foreign plants. Most of these seeds are purchased from dealers or growers, few farmers being so situated as to grow all the grass seed needed for stocking down pastures and meadows in the spring.

It is wise to sow the best seed and to sow plenty of it. It is wise also to buy only of seedsmen who have an established reputation for accuracy, carefulness and responsibility.

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HUMUS IN THE SOIL.

The action of light, air and heat on the soil is only now commencing to be accurately studied. So important is the role of the sun in the economy of life, that Professor Tyndall asserts "plants and animals are children of the sun."

Humus is useful only when it can act in producing those phenomena of fermentation so mysteriously connected with the plant's life. It is more essential in cold and elevated latitudes than in the contrary.

MANITOBA AS AN AGRICULTURAL COUNTRY.

Soil.—There is quite a variety of soil, sometimes of great depth. The most common is what is known as the black muck, very productive, so much so that the natives never thought of manuring.

Crops.—They raise there the usual cereals wheat, oats, barley, peas, &c. It is unrivalled in the excellency of its potatoes. Mr. Faucet says that he saw potatoes, nine of which filled a patent pail; a turnip measuring 37 inches in circumference.

Water Privileges.—For machinery there are none; streams are slow, no currents or rapids, but for culinary purposes abundance.

Wood.—Wood is rather scarce, consisting chiefly of oak and poplar: the latter can be cultivated.

Grasshoppers.—There have only been five raids of these for the last 60 years. Two of those only were universal.—From Mr. Thompson's Lecture.

IMPROVEMENT OF OATS.

Experiments in selecting and planting the heaviest wild oats successively, have resulted in bringing the weight of the grain up to 38 pounds per bushel in the course of six years only. Now we find in nature that it is harder to improve than to degenerate; it is not at all strange that by unconcern in planting, and for want of proper selection of seed, the oats we raise rarely come up even to the standard weight of 32 pounds to the bushel.

Frequently the oats grown in the South, where carelessness in this respect has unfortunately long been the rule, weigh but 18 pounds to the bushel, or a mere trifle over the weight of their uncultivated progenitor. Much of this poverty of quality in oats is charged to climate—as convenient an excuse, by the way, for the unenterprising farmer as is "fate" for the Mussulman. But that excuse is not valid for several reasons. In the first place, seed weighing 45 to 50 lbs. per bushel may be procured with ease, if wanted. In the second place, this seed will reproduce itself for several years without deterioration. In a case which came to our knowledge, and the facts of which we can vouch for, a field in Pennsylvania was sown in April 12th, 1869, with oats obtained from Nova Scotia, and which weighed 45 pounds to the bushel. The crop was harvested in July and weighed when threshed 47 pounds to the bushel. That season certainly happened to be a wet one and favorable for oats. But the next year the naturalized seed was sown, and the crop, although the season was very dry, still weighed 47 pounds per bushel. It is probable that the seed might have deteriorated by this time had the farmer continued to sow it. This experience, however, disproves the idea that heavy oats cannot be grown in the United States, even in a hot, dry season like that of 1870, in which corn curled considerably.

As bearing in an interesting manner upon this subject, we gather some facts from a

recent article in The London Field upon the growth of heavy oats. An ounce of Scotch potato oats, weighing 50 pounds to the bushel, was found to contain 384 seeds; an ounce of English Waterloo oats, weighing 44 pounds to the bushel, contained 628 seeds. The Scotch oats when husked gave 40 grains of meal per 100 seeds; the English oats gave only 23 grains of meal to 100 seeds. It is evident from this data that the heavy oats would give a much stronger plant than the lighter ones, because there were 40 grains of nutriment for every 100 seeds, while the lighter had but 23. Again, if two bushels of the heavy seed were sown the seeding would be about one half thinner than with two bushels of the light seed. A bushel of the heavy seed would contain 307, 200 grains, which would give seven seeds to the square foot, or one to every 4x5 inches (20 inches square.) A bushel of the lighter oats would contain 442, 112 grains, or over 10 seeds to the square foot, or one to every 31-2x4 inches (14 1-2 square inches.) If this is true of oats of such extra weight (at least with us) as 44 pounds to the bushel, what must it be when the light chaffy seed common to our farms is sown?

What wonder is it that our very low standard of 32 pounds to the bushel for this grain is, in the majority of cases, not nearly reached, and that farmers, necessarily blaming something, blame the climate?—How much longer will we ignore the fact, well known two thousand years ago, that "seed culled out and selected with much labor nevertheless will degenerate, save when the largest are yearly chosen with great care?"—Michigan Farmer.

SOME REASONS FOR EMIGRATING TO MANITOBA.

The following are among the reasons which the promoters of the American Colony give as a ground for their enterprise, many of which are worthy of consideration by all intending emigrants to this country:

The land, situated in the valley of the Red River of the North, is a black loam of great fertility, is prairie covered with grass and without a grub, stump or stone to stop the progress of a plow.

Wood and water are abundant, firewood and fencing near by, Minnesota Pineries but a short distance away.

Home markets are extremely good now, with a prospect of remaining so while railroads are being built and new comers flocking to the prairie province.

When surplus crops are raised, two railway routes for shipping to the east will be available, one an American, the other a Canadian route, running low rates of freight to Lake Superior, from which the Colony will be about 350 miles distant.

The cost of living in Manitoba for the farmer is less than in the United States, goods needed by his family being cheaper and taxes lighter. No great National Debt to pay.

Gold and silver constitute the currency of the country. The climate is agreeable and healthful, not too warm in summer and in winter steadily cold, without wind storms. Good sleighing is had without a great depth of snow.

No land in Manitoba is reserved for railroad companies, so that all is open to settlement free.

You will have immediately schools, churches, and the advantages possessed by an old settled country.

In the United States most of the lands available for Homesteads have been taken up. The new province of Manitoba has millions of acres of good land from which to choose, should the selection made by the managers of this Colony not be approved of by the settlers.

ABOUT BARLEY.

A correspondent in the Decorah Republican tells as follows how he succeeds in raising No. 1 barley:

"I let my crop stand on the ground until it is fully ripe, and then, instead of binding, as is usually done, serve it as we do our hay crop—rake it up and stack it immediately. Then thresh at your convenience. By following this rule I have invariably succeeded in getting a No. 1 berry, and consequently the best price. I have never failed in this. Others who have followed the same plan have met with the same success. My neighbors, who follow the usual course, have sometimes almost scolded me because I would not cut my barley as they cut theirs, i. e., as soon as it had turned. One year I

left it until all my neighbors had done cutting. A heavy rain storm came on and blew it down, so that I had to cut it one way.—This made me a little more trouble in cutting, but after all it was less than by the usual method of cutting and binding. Some of my neighbors said I had lost my crop. But not so; I got a good yield and the best price, and I think my barley netted me one-third more per acre than did that of those who cut and bound their grain only half ripened. The last crop I raised was treated in this manner, and it was called by experts the best barley marketed in Decorah that year."

IMPORTATIONS.

We are indebted to the Collector of Her Majesty's Customs for the following interesting statement, showing the enormous amount of the ordinary necessities of life that have been imported into Manitoba during 1873. There is not an item in the whole list that this country is not capable of producing in abundance. What can our farmers be thinking of; look at \$817 for eggs alone, and yet they have been so scarce all along that one could hardly be procured for love or money. We trust that these figures will be largely copied into the Canadian papers, for nothing could be more encouraging to the intending agricultural emigrant than this reliable evidence of the large demand for farm produce in Manitoba:

Gold Value of Farming Productions Imported into the Province During the Year Ending 31st Dec., 1873:

Table listing import values: Butter \$9,714; Cheese 1,647; Lard and Tallow 1,411; Meats—fresh, salted or smoked 39,879; Preserved meats, poultry and vegetables 7,547; Horses 11,878; Horned Cattle 33,932; Sheep 2,081; Vegetables 2,695; Eggs 817; Flour of wheat and rye 45,703; Grain other than wheat or corn 17,990; Wheat 1,200; Public uses of the Dominion—smoked bacon, crackers, etc. 20,836; Total \$197,330—Manitoba Gazette.

LIME AND CLOVER AS FERTILIZERS.

By James Atlee, Esq.

Experiment has fully demonstrated the beneficial effects of lime as a promoter of the growth of vegetation; but the results of its application have been as diversified as the circumstances and conditions of the soil to which it has been applied, and many fail to realize their expectations, either from a lack of proper application or from the condition of the soil being such as to admit of its only dispensing part of its properties as a fertilizing agent. We find from analysis that lime, in some of its combinations, forms a constituent part of nearly all plants, but varying much in quantity in different plants. By direct absorption, it is necessary to the perfect development of vegetation. Its chief office, however, is in its assimilating the properties already in the soil to the plant. Vegetation lives only on digested or decomposed food in the form of liquids and gases. The soil may contain all the constituent elements of the crop intended to be raised, and yet it may not be in a condition to be appropriated. Most soils contain carbonates, sulphates and phosphates of potassium, sodium and magnesium, in combination with silica, in the form of earthy rock, feldspar, &c., but in such a condition as to absorb only as they are slowly decomposed by exposure to the gases of the atmosphere and the rays of the sun. Many of the manufactured fertilizers make a fair showing by analysis, and do contain the elements which should sustain the plant, and yet they may be in such combination as to prove inert, on account of their insolubility. This is one of the beneficial properties of lime. It breaks up these combinations and forms new compounds which are more soluble, and are thereby made available nourishment. This result of liming is more perceptible on land containing humus or vegetable mould, which is converted into plant food.

Under certain circumstances the use of lime may be detrimental. When brought into contact with ammoniated fertilizers it decomposes hydrochlorate of ammonia, setting the ammonia free, and thereby causing

a loss of one of the most valuable stimulents of plant growth. It also reduces a superphosphate of lime to a phosphate, thereby rendering it insoluble. Hence we find superphosphate and ammoniated fertilizers do not act well on recently limed lands. We would not advise, therefore, the composition of lime with stable manure, hen manure, or other fertilizers rich in phosphate or ammonia. We have, nevertheless, an antidote for this trouble which should always be resorted to when loss is likely to ensue from this cause. Plaster (sulphate of lime) and salt (chloride of sodium) absorb the ammonia set free, and from sulphate of ammonia and hydrochlorate of ammonia, which are soluble and in condition to be returned by the rain for the use of the crop. It would be well to state in the connection that this is the real benefit to be derived from the plaster, (which is but a different form of lime.) Not being of high value as a fertilizer in itself, but having an affinity for ammonia—which is very volatile and liable to be lost by evaporation—it lays hold upon it as it passes from the decomposing vegetation in the earth, and also absorbs that which has escaped, and is retained by the rains, and is thereby brought directly to the fountain from whence the plant draws its nourishment. I would advise, therefore, a more general use of plaster, or plaster and salt, to be sown on top of the ground, especially where ammoniated fertilizers have been used, also to be sown on barn-yards and in stables and chicken-houses to save the ammonia which otherwise would escape.

A solution of copperas (sulphate of iron) will answer the same purpose applied to stables, and is one of the best disinfectants for cellars and out-houses.

But we derive our beneficial effects from liming. By breaking up these combinations in the soil it renders it more friable and casier penetrated by the atmosphere and in this condition it absorbs the moisture more readily, and is less liable to suffer from drought. From these thoughts we would conclude: First—that but a small quantity of lime is requisite, independent of its action upon and in conjunction with other constituents in the soil. Second—that lime applied to land destitute of human or vegetable matter makes available the inert properties in the soil, acting as a stimulant to the crop, and leaves the land in a depleted condition. Third—that only in combination with the mineral constituents of the soil that are available, and such vegetable and animal matter as may be supplied, can its full benefit be secured.

This brings us to the consideration of the second point of this subject,—the action of lime upon and in connection with clover as the best means of furnishing the requisite of a complete fertilizer. Of all plants none seem more dependent on lime than clover, and it will not grow on land destitute of lime. We find by analyzing the ash of clover that of its inorganic or earthy parts there is 25 per cent. of lime, 27 of potash and soda, 6 of magnesium, 3 of chlorine, 5 of silica, 25 of carbonic acid, 6 of phosphoric acid and 3 per cent. of sulphuric acid.

Thus we see that lime, potash and soda predominate largely in the earthy part of clover. The carbonic acid is supplied by atmosphere in abundance. From the peculiar habit of the clover plant, it draws its nourishment from sources not available to other plants. Its fibrous and deep, penetrating roots search for food to the depth not attained by other plants, while its numerous and broad leaves drink in its organic constituents from the atmosphere, shading the ground from the decomposing rays of the sun, and concentrating near the surface a mass of those very elements needed for the succeeding crops, and in kind and quantity more than sufficient to supply their wants.

We thus have in the combination of these two fertilizers—the mineral and the vegetable—those very constituents requisite to the nourishment of the cereal crops, and to this end an all-wise Creator has so abundantly provided lime that it is supposed to comprise one-seventh of the crust of the earth. It remains for the tiller of the soil to utilize these resources so bountifully provided.—Am. Farmer.

—The editor of Moore's Rural speaks of meadows which have not been ploughed in 20 years, and yet they yield not only heavy but first quality hay; they having always been pastured in early fall, never fed close, and occasionally harrowed and top-dressed with fine rotted manure,

ALL ABOUT

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Apprehensi Alfalfa (Luc winters of ou may possibly of 1872-73, or or 30 degrees snow; but i have no fears its being grow Mr. Colman, ture," after s of Lucerne in ful culture o Esq., near B experience o Rodwell, wh in drills, wit the fourth c cutting the 2 entire supp weeks; the cing the 3rd six weeks; the 15th of fourteen da feeding of sl of cleaning which was d row—and th second year. In this case subsoil of s manured ea bushels of s seed used w

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ALL ABOUT ALFALFA (Lucerne).

The objections to its general and extended culture are that it takes so long a time—three years—for the crop to arrive at maturity, affording no return the first or second year, and but little the third, while in the meantime it must be cultivated (in rows) so as to keep it clear of grass and weeds, which would otherwise get possession; then, if on rich and deep soil, the crop will last and do well for eight or ten years; but this prevents the land from being brought into any system of rotation, which is now the rule with nearly all British farmers. Besides the amount of time and labor required for its growth, Lucerne will thrive only on very deep and rich soil, with a porous subsoil quite free from water. The root of the plant is like that of red clover, but much longer, penetrating to the depth of four or five feet when fully grown.

Apprehension has been expressed that the Alfalfa (Lucerne) may not endure the winters of our northern climate, and this may possibly be true of such winters as that of 1872-73, or when the mercury sinks to 20 or 30 degrees below zero, with very little snow; but in all ordinary seasons I should have no fears on this point, as I have read of its being grown successfully in New England. Mr. Colman, in his "European Agriculture," after speaking of the value and use of Lucerne in England, refers to the successful culture of it by the late John Lowell, Esq., near Boston. Mr. C. also gives the experience of an English farmer named Rodwell, who sowed eight acres of Lucerne in drills, with barley, in 1838 and in 1841, the fourth season's cutting, commencing cutting the 24th of May; it furnished the entire support for thirty horses for six weeks; then the second mowing, commencing the 3rd of July, fed twenty horses for six weeks; and the third cutting, beginning the 15th of September, kept thirteen horses fourteen days, after which the autumnal feeding of sheep was equivalent to the cost of cleaning the crop the previous spring—which was done with a peculiar kind of harrow—and this needs to be repeated every second year, if the soil is inclined to grass. In this case the soil was sandy, with a dry subsoil of sandy loam, and the crop was manured each year with a dressing of thirty bushels of soot per acre. The quantity of seed used was twenty pounds per acre.

INDICATIONS OF SHALLOW CULTURE.

Now is the time to observe and draw conclusion to this matter. Walking over some farms lately, I as usual, probed the depth of cultivation with my stiff walking stick, and generally found what I expected. Here is a field of wheat which looks promising when the first shoot made its appearance, but now the side or tilled leaves are weak, puny, and as though the plant had to come to a standstill. I said to my friend who farmed the land, Here is a case of a hard or a concreted bottom under a very thin cultivation. In goes my stick, and, as I expected, 2 1/2 to 4 inches an impenetrable resistance is offered. Ontaking up the wheat plant its roots had already reached the hard subsoil on which every shower rested, and where the roots could not penetrate, and yet this field was called high land not requiring deep cultivation or drainage! Some 40 acres of my land were of a similar character, small stones binding the undisturbed subsoil into a sort of hard pan or concrete; so thirty years ago I opened the land with plow drawn by three horses abreast, a long iron plough drawn by six strong horses following in track of the first plow and loosening and breaking up the concreted subsoil without bringing it to the surface, so that the roots of plants could descend and permeate freely and safe from drought, frost, &c. Never was money better expended than to such an operation. I got into another field of wheat looking broad in the leaf, healthy, and tillering, and I knew at once that the wheat roots had free access to a considerable depth of soil, at a depth of 9 to 10 inches (15 or 20 would be much better); in fact it comes to this (and the stick will prove it), that three fourths of the land of England are, so far as cultivation goes, in a most unprofitable and improper condition. Manure is comparatively wasted on such shallow-ploughed soils, and most of them are hard-bottomed, as may be at once found by a stick in moist weather. Liebig insists upon the necessity and advantage of rendering the passage of plant roots easy and unobstructed. How deep do roots go! Have we examined the subsoil and satisfied our minds on this point

I am afraid, too often, we have not, otherwise shallow cultivation would soon be at a discount. Roots of wheat and many other plants descend several feet where they are permitted to do so, either by the natural condition, or disturbed condition of the subsoil. I know an instance of a parsnip sending its roots down 13 feet 6 inches in a mass of loosened soil which had become detached and fell into a clay pit. The root broke off at that depth, leaving an additional length. One can easily tell when and where the soil needs deepening, by forcing our stick down in moist weather. My thin sown wheat branch and thicken because their roots have a free access to a deeply-moved and well-drained subsoil. They do not "go to Halstead fair" early in May, and forget to come back again. A deep disturbance of the subsoil lasts for several years—about once in six or eight years it is desirable to repeat it.—In two of my fields of wheat half a bushel drilled per acre, in 9-inch rows, seem quite thick enough, and as harvest approaches it will no doubt be difficult to discover or distinguish these from thick sown. —J. J. Mechi, Tiptree, Eng.

AGRICULTURE 1860-70 IN UNITED STATES.

Coming now to the general department of agriculture, we find as has been said an increase of eighteen per cent., being almost precisely the rate of increase in the whole of reported occupations. In point of fact, however, this denotes a relative decline, though not excessive, in this department of industry, inasmuch as the division of labor and the use of labor-saving machinery cannot, in the nature of things, be introduced into the operations of agriculture to anything approaching the extent which the conditions of manufacturing industry allow; and consequently agriculture, to maintain the same relative share in the production of any country, should call a steadily increasing body of laborers. The causes which have produced this result are not remote or obscure. When it is considered that the staple report product of Northern agriculture are little, if at all, higher, even on the seaboard, than before the war, while the articles which the agriculturist has to purchase for consumption in his business or in the support of his family, have been increased in price from forty to eighty per cent. In the interval when moreover it is considered that the corn, wheat, pork, or beef thus produces at disadvantages, one-third one-half or two-thirds, according to the bulk or location, must go to pay the charges of transportation from farm to tide water, it will not seem strange that, despite our extraordinary agricultural endowment, this great department of industry should have made such scanty increase during the constitutional decay just closed. Indeed, it is probable that the discouraging of American agriculture, with the currency having no value in the commerce of the world, have positively depleted this branch of industry in some degree, but for the fact that a large portion of the farmers of the Western States are held more in hope of the future than for present results, their owners added through all hardships in the confidence that the general growth of the country around them will in time make them independent and even wealthy; putting meanwhile as much of their labor as is consistent with the immediate support of their families, into permanent improvements and increase of stock.—Gen. F. A. Walker, Supt. of the Census, in Journal of Social Science.

ADVANTAGES OF THE TURNIP CROP.

Turnips in Britain have superseded the old-fashioned fallow, and for this reason are often called a fallow crop. What an immense gain there must be in permitting no land to be idle. Experience has shown that it is highly advantageous to raise alternately a deep-rooted plant like the turnip and a surface-rooted crop like wheat and other grains. The deep-rooted plants draw up from the lower strata of the soil valuable nutriment, and leave a portion of it on the surface, where it can be readily reached by the shallow-rooted plants. Moreover, the broad turnip leaf attracts and absorbs moisture and fertilizing material from the atmosphere, which it returns to the land, along with the nutriment obtained from the subsoil, in the form of manure. The clean and high culture necessary to this crop rich and in the best possible condition for a grain crop. Turnips furnish a welcome, wholesome, nourishing green food for stock at a time of year when there is nothing else of the kind to be had.

Growing stock will do better on straw and turnips than on hay alone. The manural value of the straw is greatly increased thus, when its decomposition is hastened by the pectic acid of the turnip. Hence to mix turnips and straw is an excellent method of feeding. It is not the least advantage of this crop, that it may be attended to after the hurry of the spring's work is over. Our season is a hurried and short one. Swede turnips do well put in the middle or latter part of June, and the white varieties in July.

THE ENGLISH PRACTICE.

The recent sales of leaseholds in Ireland, one farm of 26 acres—how is that for a farm?—with a lease nine years to run, was subjected to an annual rental of £58 9s. 4d.—something near \$300 American currency—equal to nearly \$12 per acre. The leasehold of the farm sold for £305. Dividing this over the whole period of nine years, and allowing nothing for interest it would bring up the annual rental to \$17 per acre. Another leasehold—length of leasehold not given—of 47 acres subject to yearly rent of £143 1s. 3d. was sold for £620. Assuming this lease had ten years to run, and the annual rental amounts to about \$21 per acre in gold. This rent, and taxes, etc., these farmers have to pay in Ireland, and yet they pay it and grow rich, many of them. They do it by paying the greatest attention to live-stock, securing animals which will feed the best, mature the earliest and bring the highest price in the market, and maintaining as many upon the farm as it will carry with profit. They make money feeding the stock to start with, and the manure it gives them secures the most marvellous yields of cereals and roots. They would grow poorer year by year, and starve with the land, if they followed the shiftless practice of many American farmers in selling the bulk of their produce in the gross form. They do nothing of this, but buy and feed upon the farm as much food grown outside of it as they can, even sending to this country for oil-cake and meal which we had better keep at home.—National Live Stock Journal.

SOIL EXHAUSTION—DOES PLASTER PAY?

I remember some thirty years ago, the farmers used to sow new ground or Summer fallow for wheat. The average crop was from twenty-five to thirty-five bushels per acre. Then they would plow the ground three times, and sow about ten to twelve acres each, but now-a-days the same farmers double crop in from thirty to fifty acres, after barley and oats, as they can cut it with machinery and get from sixteen to twenty bushels per acre, and impoverish the land in that way. There is one thing should be remembered, that frequent seeding with clover and plowing under when about six inches high, will keep the ground in good condition—it being almost impossible to make barn-yard manure enough to keep a farm up. Timothy sod is not worth much as a manure. Ground should not be cropped more than twice or three times before seeding with clover; no matter if you plow it up again the second year, all the better for the ground. The drouth has baffled the best of farmers for the last two or three years, but we don't expect it to continue, and that is not the fault of the ground.

Another reason why the wheat crop fails is that the country is getting cleared up, and the west wind sweeps so hard that it freezes the wheat out in winter. There should be sheep and cattle enough kept on the farm to eat all the hay, straw, corn fodder and coarse grain also. The ground should be sown often with clover. Meadow lands should be top-dressed in the spring with fine manure, or mulched in the summer or fall, after mowing, with coarse manure or straw. Do not mulch meadows in the spring, for it will rake up in mowing time and make a bad quality of hay. I have mulched meadow land after haying, and the grass on the land that was mulched was from two to three inches higher in the fall than on the land that was not mulched. Plow in clover sod often, and keep plenty of stock, and the farm will improve instead of showing soil exhaustion.

Does sowing plaster pay? Plaster will pay on corn, potatoes and clover, but on winter wheat, barley, oats and old timothy meadows, it is worthless. I have experimented on plaster for 25 or 30 years, and never have received any benefit from it except on corn, potatoes and clover. I have sown plaster on winter wheat in the spring, and could not see any difference in the wheat, but could see a great difference in the young clover that was sown on the wheat. There are often streaks through the grain fields, caused by plowing, that are said to be

caused by plaster. I have had them pointed out in my own grain fields, where there has not been any plaster sown in four years.—J. A., in New York Times.

NORTHERN PACIFIC LANDS.

Gen. Hazzen, writing to the New York Tribune about the lands of the Northern Pacific Railway, says:

"Respecting the agricultural value of this country, after leaving the excellent wheat-growing valley of the Red River of the North, following westward 1,600 miles to the Sierras, excepting the very limited bottoms of the small streams, as well as those of the Missouri and Yellowstone, from a few yards in breadth to an occasional water-washed valley of one or two miles, and the narrow valleys of the streams of Montana already settled, and a small area of timbered country in north-west Idaho—probably one-fifth of the whole—this country will not produce the fruits and cereals of the East for want of moisture, and can in no way be artificially irrigated, and will not, in our day and generation, sell for one penny an acre, except through fraud and ignorance; and most of the land here excepted will have to be irrigated artificially. I write this knowing full well it will meet with contradiction, but the contradiction will be falsehood."

REDUCING BONES.

Mr. Potter Warren, of New Hampshire, at a recent agricultural convention, gave the following easy and cheap method of reducing bones. If the farmer will set aside a caulk, in some convenient place, for the reception of bones, and throw all that are found on the farm into it, he will be likely to find a collection at the end of the year that will prove a valuable adjunct to his manure heap:

"Place them in a large kettle, mixed with ashes, and about one peck of lime to the barrel of bones. Cover with water and boil. In twenty-four hours all the bones, with the exception, perhaps, of the hard shin-bones, will become so much softened as to be easily pulverized by hand. They will not be in particles of bone, but in a pasty condition, and in excellent form to mix with muck, loam or ashes. By boiling the shin-bones ten or twelve hours longer, they will also become soft."

IMPROVEMENT OF SOILS.

It is not alone in the variety of her industries that England has achieved a proud position. The perfection of her agriculture teaches us the stern demands of necessity, which have been hers and will soon be ours. England, with a soil inferior to ours, and long worn by a culture far removed from skill and thrift, now produces often sixty bushels of wheat to the acre, while ours is scarce a fourth of that amount. But her system has taught her to buy our corn, oil-cake and bones, with which to recuperate her worn soils, while we are grumbling because we are not able to still further deplete our wealth because of the cause of carrying it away! She finds her market at home, and agriculture prospers; we find ours across the ocean, and must bear our part of the burden of transportation, which is always enough to absorb the profits on our labor. May we learn soon that the nearer the producer and consumer are to each other the better for both, and that the interest of agriculture and the mechanic are inseparably interwoven.—Iowa Homestead.

PUMPKINS AMONG CORN.

Almost all "old-fashioned farmers" take off a crop of pumpkins from their corn-fields, much to the annoyance of the theorist, who demonstrates to his entire satisfaction that the one crop must detract from the full force of the other. But the most careful experiments show no loss to the corn. The same weights results from an acre, without the pumpkins. It does at first thought seem as if it ought not to be so. If it takes just so many bushels of corn to fatten a hog, it is not clear how we are to fatten two from the same quantity. This is the argument of the theorist.—But the facts are as we have stated; and the reason probably is, that the pumpkin and corn feed on entirely different foods in the soil, so that the one can go on without the other.—Western Rural.

The Duke of Sutherland owns a three-year old ox which weighs 2,500 pounds, and measures in girth nine feet one inch. It was recently on exhibition in Inverness, Scotland, and attracted much attention.

MESSESS. BIRREL & JOHNSON, of Greenwood, Ont., have purchased the heifer, "Golden Drop 3rd," from Mr. John Russel, of Pickering, Ont.

MR. SNELL'S Show Cow, "Golden Drop," sold at their recent sale for \$1225

MR. GIBSON, of London Township, bought "Golden Drop 2nd" at Thomson's Sale for \$1005.

Four of this popular family were sold at the recent Canadian sales, at an aggregate of \$4,260, or an average of \$1,065 each. Mr. R. Gibson has refused \$4,000 for the "22nd Duke of Airdrie."

Another New Potato.

We now call your attention to Brownell's Beauty, a potato introduced by B. K. Bliss & Son, who give the following description of it:—

This new potato was raised by Mr. E. S. Brownell, an enthusiastic farmer in Northern Vermont, and named by him "Brownell's Beauty." This variety was obtained in 1870, after a long series of experiments, by fertilizing the blossom of the Early Rose with the pollen of the White Peach Blow, and possesses, in addition to the excellent qualities of these two popular and well-known varieties, that of being, without exception, the handsomest potato in cultivation, and a most excellent keeper, which will make it particularly valuable for shipping purposes. Potatoes kept in an ordinary cellar from October to the following August, were tested by some of the best judges in the country, and pronounced to be superior to any of the new varieties then in the market. Samples for trial have been placed in the hands of competent judges the past season with the most satisfactory results. Samples were also sent to the gardens of the Royal Horticultural Society of London, where they received a first-class certificate, and have also received many premiums at various Agricultural Fairs in this country. At the State Fair in Albany they attracted much attention, and sold readily at \$1.00 each. Size, medium to large, growing very fair and smooth. Eyes few and small, nearly even with the surface; shape oval, somewhat flattened; skin reddish, or a deep flesh color; flesh white, fine grained and very delicate;

For the table they cook either by baking or boiling, equal to the very best, and with ordinary boiling they cook to the centre evenly, dry and mealy, and are never hard, watery hollow, or discolored at the centre; flavor unexceptionable. Its vine is of medium growth; foliage deep green, and very healthy in all respects. The tubers grow compactly in the hill, and are easily dug, ripening in about three months from time of planting though suitable for cooking in a week later than the Early Rose, with the same culture. They are very productive, with but few small tubers. The first year, from seed, 21 tubers were produced, some of which were of fair table size; in 1872, an average of three bushels from every pound of seed; in 1873, one pound of seed, cut to single eyes, produced eight bushels. Its beautiful appearance, fine quality, extraordinary productiveness and remarkable keeping qualities will render it a most valuable variety for the market.

[We try to give our readers information respecting the new seeds and plants that are introduced, and also an opportunity of procuring them early without cost. We cannot be sure of the superiority of all new varieties until they have been tried by several parties. B. K. Bliss & Sons have an established reputation, and it would not do for them to run their name on an inferior article. We will send four ounces of this new potato to any person sending us one new subscriber to the ADVOCATE.



POULTRY YARD

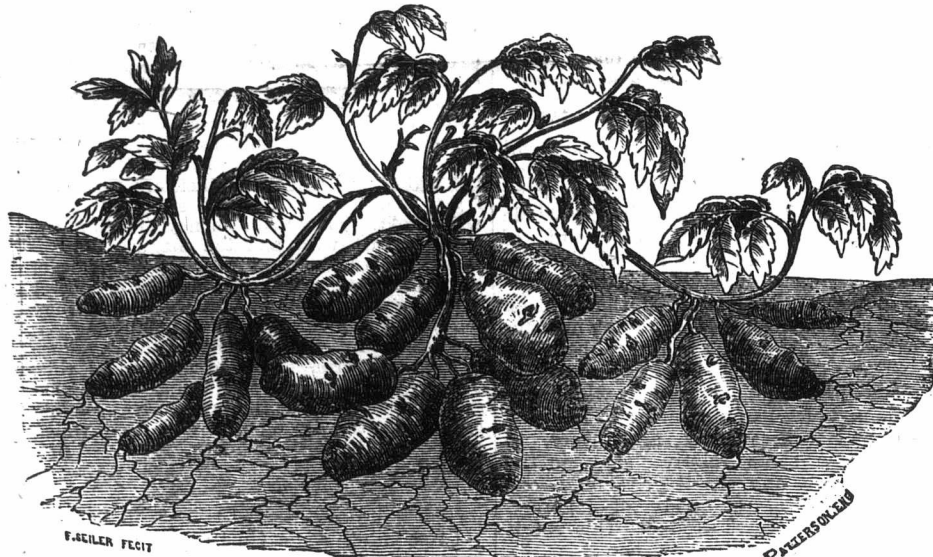
Houdan Fowls.

Houdans are large, heavy, short-legged, five-toed fowls with small light bone, a remarkable absence of offal and with irregular speckled or mottled plumage, excellent layers of good-size eggs, remarkable for being almost invariably fertile. As a table fowl, their merits are of the highest excellence. No pure bred chickens mature with greater capacity; are extremely hardy, feather early, and are consequently easily reared.

PROPORTIONS AND GENERAL CHARACTERISTICS.—Body slightly rounded, of ordinary proportions,

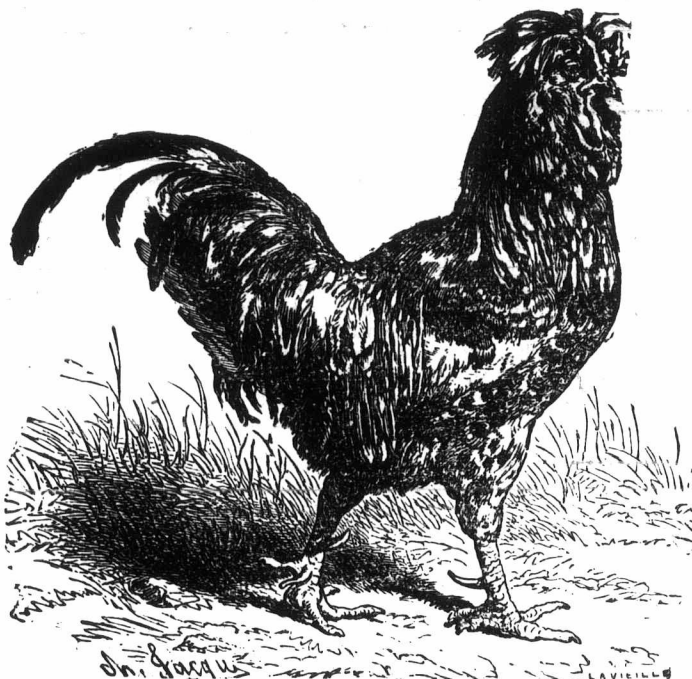
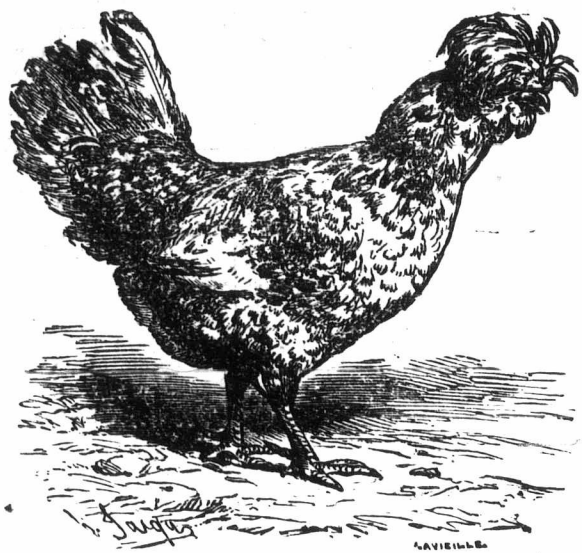
small and hidden by the whiskers, half crest, inclined backward and to the sides. Beard begins between the wattles under the beak, and should be larger at the bottom than at the top. Physiognomy of the head differing from that of other breeds in many remarkable particulars. The head forms with the neck a very close angle, so that the beak takes the appearance of a nose. The square and flattened comb looks like a fleshy forehead, the cheeks are surrounded with curling feathers that look like whiskers, the drooping corners of the beak like a mouth, the feathering cravat joined to the gills simulates a beard, the top-knot looks like a luxuriant head of hair and the whole face immediately gives the idea of that of a man. In the adult the legs should be of a leaden grey, in the chickens bluish grey and white, with rose-coloured spots.

The plumage of both sexes should be entirely composed of black, white and straw color; those that show any red should be piteously got rid of. The plumage of the Houdan should



COMPTON'S SURPRISE.

Read description on page 53, April number. 4 oz. of this potato given as a prize for one new subscriber.



THE HOUDAN FOWLS.

por tions, tolerably near the ground, standing firmly on large feet. Breast high, legs and wings well developed, large head, half top-not; whiskers and beard, triple transversal comb, five toes on each foot. Plumage splashed or spotted white, black or straw color; in chickens black and white only.

An adult cock should weigh from 6 to 7 lbs., made up principally of flesh the bone weighing only an eighth. He should be put up to fatten at sixteen, and be killed at eighteen weeks old.

His comb should be triple and transversal to the direction of the beak, composed of two lengthened rectangular and flattened spirals, opening from the right to the left like the leaves of a book. They should be thick and fleshy, and notched or uneven at the sides. The third spiral should grow from the middle of the other two, be about the size of a lengthened nut, and shaped like an irregular strawberry. A fourth, independent of these, and about the size of a tare, grows above the beak and between the nostrils. Deaf Ears,

be either spotted or splashed, irregularly made up of alternate black and white feathers, sometimes of black tipped with white, sometimes of white tipped with black. The adult hen should weigh from 5 to 6 lbs. Both sexes must have five toes on each foot. The hen is an abundant and early layer of large eggs.

SHALL WE BEGIN WITH EGGS OR FOWLS.

The question is often asked by those who are about to commence breeding the better sorts of poultry. The most desirable fowls are always high priced; and to give from \$20 to \$50 for a single pair of birds seems a pretty large investment of capital. The eggs are cheaper though still dear in comparison with market eggs. The question is a fair one and worth looking at. In starting a flock of pure bred turkeys, if we commence with eggs they will cost \$12 a dozen, at least, if you can find a breeder who is willing to sell them. They have to go through the

hands of the express man, and it is currently reported that eggs are sometimes broken or damaged on the passage. But if they arrive safely and are put immediately under a setting hen, you may get a half-dozen chicks, and with fair attendance, raise them. At the end of the season you have only half turkeys enough to start a flock with, if you have a good range. Twelve dollars will buy a good pair of pure-bred turkeys, if ordered early in the season. The hen will lay for the first setting about fifteen eggs. If these eggs are taken from her and put under hens, she will very soon lay a dozen or more for a second setting. If the eggs are properly cared for, and turned daily while they are in the house, they are quite sure to hatch. It is safe to calculate upon thirty eggs from a good bird, and a flock of a dozen or more the first season. The balance is altogether in favor of buying the fowls. There is little chance of being cheated, for if the birds do not suit you, you have your remedy at once. But you do not know what is in your eggs until the end of the season. The best safety package for the transportation of eggs yet invented, is the ovary of the mother. It is quite rare for fowls, properly boxed, to be injured in transit. They can be sent across the continent with about the same safety as across a country. It costs but a little more to buy good fowls, and you generally gain one season.—W. Cleft, in Poultry World.

HOW TO COMMENCE WITH POULTRY.

As we are fairly launched in the poultry business, our experience may be of some use to others just commencing. The first step with us was to buy three large hens, expecting them to suit in due time. They did not. The next step was, therefore, to buy five more, setting when bought. Of course they kept on, and eggs were then bought of a fancy dealer here and in other places within a range of six miles, therefore running no risk of breakage or exchange. Seventy eggs were put under five hens. At the end of twenty-one days they commenced to hatch. Thirty-five chickens was the result. They were three days coming out. Those remaining in the shell

overtwenty-one days were weakly, and needed much care, but we lost only one. Commenced feeding them with cakes baked of Indian meal, pounded, with the yoke of a hard boiled egg added. Fed that with wheat screenings, 2 weeks. Then gave them cracked corn and oatmeal, or fine feed scalded together with a teaspoonful of lard to a pint of corn.—Give the pudding twice a day, and the wheat screenings twice. They had the free run of a large grass-plot and plenty of good water, and good light dirt to roll and dust themselves in, which they enjoy highly.

Our success with the first settings encouraged us to try again. We put all the chickens under 2 hens and let the 3 sit again, together with one of the first lot we bought. Put sixty eggs under them. Thirty-five chickens came out. The hen killed four, and one died, leaving just one-half. One hen got tired of setting and left her eggs when her second twenty-one days were out. We put the eggs under another hen, but only got three chickens from fifteen eggs; but our average was the same as before. Some of them were very weak and we did them up in cotton and fed them with milk and bread crumbs until they could stand their own ground. Can any breeder explain why some chickens come out bright and smart in twenty-one days, while others remain from twenty-four to forty-eight hours longer in the shell? It is a new idea to us. We have now sixty-four chicks. They grow finely and seem perfectly healthy. They require a good deal of care, but we hope another winter to be repaid four-fold *Low Homestead.*

DAI
This is a habit, first purpose of the article, customized to colored to ferior. Of among cons There is no jurious, as a tree called times adult Besides the containing some and e to the nutr some of the preferred, l We have three dairy think it wor stopped.

for us in C Americans our sales. necessary to practice at t it will no do on both side we do not t sales, if the the English markets. make the ne and not neq habit before imagination. vanced in fa much can be U Mr. Thos. reports the f use of bone farms within eight acres o he sold as it He put on manure.

DAIRY DEPARTMENT.

N. Dickey, Editor.

COLORING CHEESE.

This is an entirely useless and expensive habit, first introduced, we presume, for the purpose of deceiving customers, by giving the article a rich appearance. Persons accustomed to the use of cheese will prefer the colored to the uncolored, although much inferior. Of course it is not generally known among consumers that the color is artificial. There is nothing in the coloring matter injurious, as it is the outside of the seed of a tree called the *Bisa prellum*, but it is sometimes adulterated with poisonous compounds. Besides the danger of the coloring matter containing poisonous substances, it is troublesome and expensive, and adds not the least to the nutritive value of the cheese. In some of the English markets pale cheese is preferred, but in the majority the yellow.

We have been speaking to some two or three dairymen on the subject, and they think it would be well if the practice was stopped. Of course it would be utter folly

To Advertisers.

The Molsons Bank in this city has let their business be known through the columns of this journal, and we are happy to record the fact that whereas its paid-up capital was one million, it is now two millions; its rest was \$60,000, and now it is \$300,000. No bank in this city has ever progressed so rapidly.

THE AGRICULTURAL INVESTMENT SOCIETY has increased its legitimate and uninflated business in the most permanent manner, and is doing one of the surest and safest businesses in the city. His money is in safe and reliable keeping who places his capital into this institution.

THE AGRICULTURAL MUTUAL ASSURANCE COMPANY are doing a larger business with farmers than any other in this Dominion.— Their advertisements always appear in the columns of this paper. Farmers, you may depend on correct business being done by each of the above institutions.

Stock sales that have taken place during the past month have been most successful to those whose advertisements have appeared in this paper. We know of some sales of

We have noticed many reports of this variety in our exchanges. One in particular—a clipping in the *Canada Farmer*, last year, stating that it yielded fully three times as much as ordinary buckwheat.

We can supply a few bushels at the following rates: \$2.50 per bushel; 1/2 bushel, \$1.50; 1 peck, \$1—bags included.

The farmers of the Province of Quebec are uniting to establish a combination sale of blooded stock; many leading breeders are sending stock to it from long distances. The sale is to take place at Montreal. The advertisement appears in this paper. We suppose the managing committee will most probably make arrangements with the R. R. Co's to carry persons attending the sale at a reduced rate. We hear, also, that a similar sale is contemplated by the breeders west of London. We have a few Short Horn bulls on our list to dispose of.

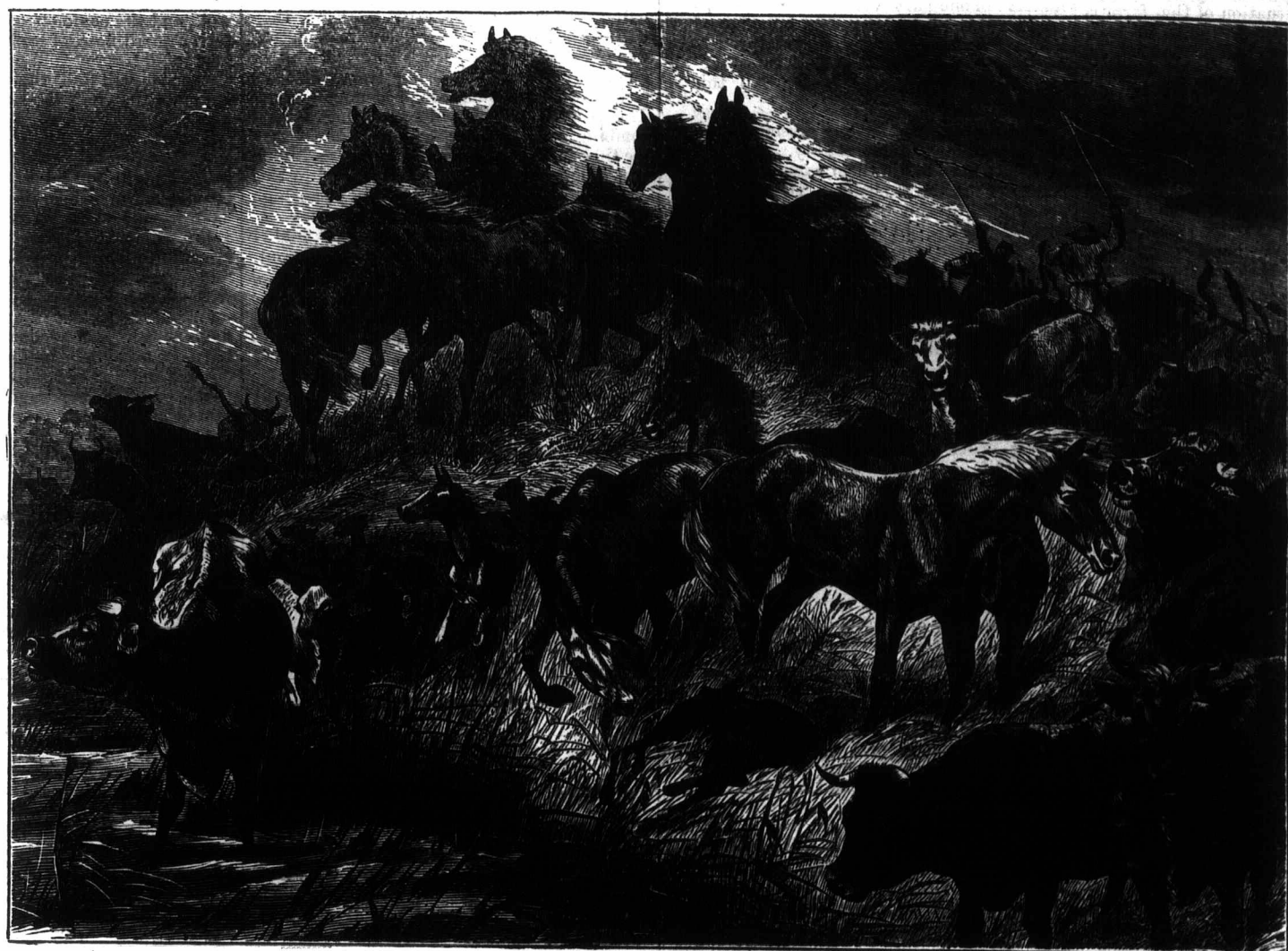
FARMERS' CLUBS.

We notice with great satisfaction the increase of these institutions in all parts of the country, and notably in the New England

new fruits, flowers, implements and stock.— They break up the dull routine of the farmer's life, and are doing something to make farm life attractive to the young.

We have often called the attention of our readers to the value of these clubs in past years, and are glad to see that the good seed sown is springing up in so many places. The State Board of Agriculture in Connecticut has been doing a good work the past winter, in holding meetings in connection with these clubs in various parts of the State, for lectures and discussions. The meetings have generally been confined to one day in a place, holding three sessions. Lectures have been given by Professors Johnson and Atwater, and by the Secretary, T. S. Gold, with discussions at the close. It would do much to popularize the work of our boards of agriculture if they would follow the example of Connecticut in all the States.—*American Agriculturist*.

We hear the beautiful Agricultural Exhibition Grounds of this city are to be sacrificed to city purposes, and city interest, also that grounds are to be procured for Agricultural purposes, in the selection of which, the first thing that will be considered will be the city interests.



THE AUSTRALIAN CATTLE SCENE.

for us in Canada to stop it, unless the Americans do the same, as it would injure our sales. We think that it will only be necessary to suggest the abolition of the practice at the Dairymen's Conventions, and it will no doubt be acted upon by dairymen on both sides of the lines. If so acted upon we do not think any loss would accrue on sales, if the reform was well advertised in the English markets and also at our home markets. We hope those interested will make the necessary effort at the proper time, and not neglect the throwing off of a bad habit before it gets too deeply rooted in the imagination. There can be nothing advanced in favor of its continuance, while much can be advanced against it.

Use of Bone Dust.

Mr. Thos. Evans, of London Township, reports the following good effects from the use of bone dust:—On one of the poorest farms within ten miles of London he raised eight acres of Western Corn last year, which he sold as it stood in the ground for \$170.—He put on a mixture of bone dust and manure.

Short Horns that took place during the past month that might have been advertised in local papers; but buyers were wanting, and the prices paid were low, in fact, some stock could not be sold.

Our paper has the largest circulation among the leading farmers.

Silver-Hull Buckwheat.

We quote the following description from the Catalogue of B. K. Bliss & Son:

"This extraordinary variety, originated abroad and carefully tested here for three years, is now offered as a great improvement upon the ordinary black or grey buckwheat. Sown at the same time as the common buckwheat, it continues in bloom longer, matures a few days sooner, and yields nearly or quite double under the same conditions.

"The grain is of a beautiful light grey color, varying slightly in shade, and the corners are much less prominent than in the ordinary variety, while the husk is thinner, thereby saving from 15 to 20 per cent. waste in the process of manufacturing into flour, which flour is whiter and more nutritious."

States, and the provision they are making for the entertainment of rural communities. They are so well managed in many places that they contribute a very important element to the social and intellectual life of the people. They are taking the place of lyceums, and to some extent of balls and fashionable parties. Their informal and business character makes them attractive to many who think they have no time for visiting and social enjoyments. Pomology and floriculture receive a due share of attention, and make the meetings acceptable to villagers, who have only fruit yards, gardens and conservatories. Indeed, the most flourishing clubs generally have their centre in the village, and the winter meetings are held in some public hall. Sometimes a course of lectures is given, which draws full houses from village and country. Often there are discussions upon questions of practical interest, which bring out the experience of the best cultivators in the town. Exhibitions of fruit and flowers, and exchanges of grafts and seeds and eggs are frequent adjuncts of the meetings, and not the least important of their advantages. The educating power of these clubs is very great. They quicken thought in many ways. They direct the attention to the best methods of husbandry. They serve to economize time and labor, and introduce

Australian Cattle Scene.

Last month we presented our readers with an illustration of the Ashantee farmer tilling his fertile plains. We now present them with a pastoral scene from the youngest of the continents, as Australia has been sometimes called. From Ashantee to Australasia we take our good readers; but throughout the earth we are now no strangers to each other—science has brought us near. England's Postal Service now girdles the earth, and this great mail route of over ten thousand miles, girding the earth in about fifty days, has been established after repeated efforts. Where the kangaroo lately browsed. The scenes presented in our illustration is such as to remind us of the lovely scenes so familiar to us in the Island-Empire of Europe, with the stock of improved English blood. The progress of civilization in Australasia has been so rapid that "towns and villages, dome and farm," are like similar objects of beauty in the old countries. In Australasia, under the happy rule of Britain's Queen, there are six divisions with populations ranging from 24,000 inhabitants up to 731,628 in Victoria.

STOCK & DAIRY

N. Dickey, Ed.

A SOUTHDOWN FARM IN ENGLAND.

"The excellence of English farm stock is owing, more than anything else, to the perfect adaptation of locality and soil, and the raising of the most suitable fodder crops. This is strikingly apparent in a description of a Southdown farm devoted to Southdowns, belonging to Mr. Wm. Ridgen, of Hove, near Brighton—one of the most successful breeders of this favorite class of sheep. This estate of 700 acres has been managed by the present occupant for 33 years; it is supplied with gas, and with water from an adjacent reservoir. There are 20 cows kept for milk, which are fed in stalls the year round. Large crops of grain and straw are grown for sale and for feed to fattening bullocks in stalls. The flock, which number 300 ewes, is however the main feature of the farm. For them large quantities of roots, cabbages, kohlrabi, scarlet clover, rape, and other green crops are grown; so that there is a constant succession of fresh feed. During the day the sheep are folded upon these crops and at night are penned upon stubble fields. The situation of the farm is such that green crops are always to be had. It is a gentle sloping chalk "downs" or smooth expanse bordering upon the southern shore of England. Thus the sheep have a very equal climate with mild sea breezes and pastures ever fresh and green. No ewe over four years is retained, and great care is exercised in choosing rams and selecting ewes for breeding. There are no fences upon the farm, and a shepherd with his dog accompanies the flock at all times. The male lambs are castrated when ten days old, fifty of the best being reserved for rams for breeding. This flock is renowned for its excellence, and rams from it are "let" for a yearly sum of \$150. The secret of this excellence is, however, acknowledged to be simply "a frequent change of food," and this conclusion is the most notable part of the whole story."—*New York Tribune*.

THE EARLY MANAGEMENT OF LAMBS.

The season of lambing is one requiring the most watchful care of the shepherd, so that he may assist the ewes that are not doing well, and nurse the weak lambs that do not take kindly to the dam; when once the lamb has sucked there is but little further danger, unless it becomes chilled. If the ewes do not have milk at once, as is sometimes the case, a little new milk with a trifle of white sugar and a little water added, placed in a common nursing bottle with a rubber nipple, will be found of great value. The dam may also have a warm mash of oatmeal, or if this cannot be had, one made of good bran. Some ewes have twins or triplets, and do not afford milk enough for the lambs. In this case it is well to raise one or even two of these on cow's milk, as cossets, which is easily done, since there are no farm animals so easily managed in this respect as lambs. They soon learn to eat and drink, and make fine carcasses when killed.

When the lambs are from five to eight days old, they should be docked tolerably short. It not only adds to the appearance, but prevents the accumulation of filth, which detracts from their saleable value. The ram lambs should never be allowed to get more than two weeks old before they are castrated. From ten to twelve days old is the proper time.

A lamb is caught by an assistant, and the operator, which is similar—makes an incision in the bottom of the scrotum large enough to allow the testicles to be passed through. Separate one at a time from the spermatic cord by a scraping stroke with a knife not too sharp, since this does not cause so much blood to flow as when a clean cut is made. Some persons jerk the whole testicle and cord out; but this plan, although, from the shock, prevents the effusion of blood to a great degree, is unnecessarily cruel, and not to be recommended. Use no salt nor wash to the wound. It is as a rule, unnecessary. When there is considerable bleeding it may be stopped by injecting into the orifice, with a small syringe, a little tincture of mastic or tincture of muriate of iron. It is especially necessary that lambs should be castrated young, since they are more quiet, fatten better, and make superior meat when killed and are, if sold while lambs, fully as saleable as the ewes.

From the weaning time until there is a full supply of grass, the flock should be liberally fed upon the best hay, and not less than a pint of corn or, better, meal per day; and if you have carrots or sugar beets to give in addition, so much the better. Give what they will naturally eat of hay, grain, and roots, and furnish all the water and salt they need. Sheep especially like to drink a little and often. Make an inclosure that the lambs may enter, but which will keep out the ewes, supplied with a trough of meal for the lambs.

KIDNEY WORMS IN HOGS

In regard to rubbing "pores" open one of the inside of a swine's fore-legs, and then filling them with lard, you ask, "What good purpose is served by such a process?" Let me say, I understand that their secretions are not wholly soluble in water—even with the addition of soap—but that they may be in lard, or soft grease of any kind. In the same way, when our hands get pitched or tarred badly, we use lard in combination with soap, the two acting together as a solvent better than either separately. It is the same with grease heals in horses. It is almost impossible to remove the secretion with soap and water but if after being washed, a mixture of one part verdigris and ten parts lard is rubbed in and the scabs fall off in a few hours. And, by the way, the mixture I have made is one of the best and safest of all applications for grease heels. All this is nothing.

And now about feeding arsenic to hogs. Hogs, like dogs, vomit readily, and, therefore, no dose will kill them, except in unusual conditions of the stomach. To feed a teaspoonful of arsenic is the shearest folly. If Mr. G. desires to kill kidney worms, let him feed five grains at a time, once a day, for a week. Under such a course the system becomes arsenical, just as after the use of small but repeated doses of calomel the system becomes salivated. In the state of salivation or arsenicization, the tendency of the poisoned blood is to accumulation in inflamed centres. When there are worms about the kidneys, there the poisoned blood will go; and the kidney worm being one of the lowest order of organization, has a light hold of life, and very readily dies under even the least unfavorable conditions.

Swine are universally effected with kidney worms and other kidney inflections in all warm countries. Soldiers in the South during the war told me it was rare to find a hog not more or less effected. Probably it was that liability to disease which took them out of the category of safe food in all Mohammedan countries.—[*Cor. National Live Stock*.

SUGAR BEETS FOR FATTENING SWINE.

Jonathan Talcott gives a statement in the *Boston Cultivator* of an experiment performed on a Suffolk pig where sugar beets were largely employed for fattening. The animal was about a year old, and the feeding on boiled sugar beet, tops and roots, began on the 16th of August, and was continued thrice a day until the first of October, after which ground feed was given, consisting of two parts of corn and one part of oats, three times a day, till the animal was slaughtered, the meal being mixed with cold water. The result was on the 16th of August, when the sugar beet feeding was begun, that the weight was 60 lbs.; September 1st, 390 lbs., October 1st, 450 lbs.; November 1st, 550 lbs. This is the substance of the statement given, by which we perceive that the increase the last of August, when fed on boiled sugar beets, was at the rate of two pounds per day; the same rate of increase of the same food continued through September. When fed on ground corn and oats, made into cold slop, the gain for the next fifty days was less than a pound and a half per day.

HOW DISEASE IS CAUSED.

A man in a country village allows a drain from his pig sty to run close to his house till it becomes a bog of putrid filth and the noxious gases from it taint continually the air which he breathes. It ran there perhaps in his father's time before him. Therefore why should he be at the expense or trouble of making a fresh drain, or removing his pigs? At last he is prostrated with fever, and has a narrow escape of his life. The woman who nurses him takes the infection, and leaves a young family motherless. The fever, very likely, spreads to half a dozen other houses, cuts off a man here, and a woman there, and several children all round—besides those who take the disease, and recover. Who is in fault!

COTSWOLD SHEEP.

From a paper read by R. G. Hill, Esq., of Elmore, Vt., before the farmers' meeting at Morrisville:—

In shape, the Cotswold should have a straight, flat back; broad, deep chest; short legs, with a fine, small head. Avoid large, coarse-boned sheep; they will not feed with profit. The fleece should be long and open, soft and fine with a good lustre; they should be well woolled all over with an even and heavy fleece. When young they should have a heavy foretop, and the skin a light pink.

No stock will better pay for good keeping and care than these sheep, but great care should be taken not to feed to high. No farmer should let his flock get wet after it becomes cold, for many a disease is contracted in the fall by exposure, which shows itself in spring. If nature recovers, it is with great effort, and the profit of the sheep is much reduced. The whole flock should be got up every night after it becomes freezing weather, and a little good hay fed them. To drive up a flock of Cotswolds is but little trouble; a small child can do it. The Cotswold sheep need only to be fully understood to become as indispensable to the farmer as pork. There is no other meat as healthy. The wool will pay for keeping, as when kept they will shear from ten to twelve pounds unwashed wool. This wool is free from oil or gum, and will always bring from 15 to 20 cents per pound more than common wool. There is a growing demand for a good combing wool, and the manufacturers assure me that if there were many times as much first quality of combing wool raised in this country as there now is, it would be as high as now. And I am confident that nowhere can they grow a finer and higher lustered combing wool than here in Vermont.

And here I say it is not best to let them get much wet before shearing, as it is very important that combing wool should be open and free from cost. These sheep are particularly adapted to our small farms. They cannot be kept in large flocks like fine wools, so we have no fears of competitions from Australia or Texas, where one man with three or four natives will attend a thousand or more. Our climate agrees with them; keep them dry and they will pay no regard to the cold.

Now my experience is, one-third of a farm, stocked with Cotswold sheep, will yield a greater profit than two-thirds of it stocked with cows. It takes about the same to keep six of these sheep as a cow. Grade Cotswold wether lambs are worth at weaning \$10 per head to grow up for mutton.

This price paid for sixty of these lambs, if kept three years and then sold, after deducting the money invested with interest, will show a much larger profit than the average dairies of ten cows, after deducting the necessary expenses of care of the dairy, over and above that of the sheep. On this basis a flock of sheep, half wethers, the rest ewes would yield a profit of more than twice that of the cows. I have made my estimate from my own experience of six or eight years. This covers a period in which thousands of sheep should have been slaughtered for their pelts, while their pelts would scarcely pay for the slaughtering.

Great care should be taken in selecting bucks. It is an erroneous idea that the farmer cannot afford to buy a full blooded duck,—he certainly cannot afford to do without one, even if he has but a small flock. A buck should be kept in good condition at all times, and never allowed to run with the flock.

The ewes should be in a thriving condition at coupling time. Ewes will thrive and do well on good hay; however, a few roots daily are beneficial. If my hay is good, I feed no grain until after weaning; if not very good, one gill of oats a day. When intending to feed grain, we should begin when we commence feeding hay. If we have fed no grain to the ewes before weaning we should not commence until the lamb is a week old, and then increase gradually. I feed potatoes and shorts after weaning.

It is a very easy matter to make the lambs gain a pound a day, but it is much safer for them to grow not more than one-half of that for the first three months, particularly early lambs. I have had ewes to grow two lambs, a pound a day each, but when a March lamb grows thus, it is very tender, and is a fit subject for paralysis, and is liable to rheumatism. The lambs should be fed a little grain every day in winter. It is very im-

portant that they should be kept the first year.

I would not advise any farmer to have anything to do with these sheep unless he can take proper care of them. If he lets them shirk for themselves from the time they can find a bear spot in the spring, till they cannot find one in the fall, or as long as they can live, he had better keep nothing but the poorest scrubs, as they will take to the woods for shelter and take care of themselves, which these sheep will not do.

In raising a flock of Cotswold sheep it is—as with many other affairs—the neglect of seemingly small things often cause serious consequences. To show the importance of being careful I will just mention a circumstance:—Last fall some of my sheep were frightened so that they ran some fifty rods; one large fat lamb dropped dead. They should never be frightened, nor driven faster than a walk. The first few years of my keeping sheep I lost many by disease, but for the last five years I have not lost over two per cent. by disease. I occasionally lost one by accident,—occasionally find one dead in the pasture without finding a cause. For a number of years, they have not averaged one death a year in the spring, when sheep are most liable to die of disease.

To show the difference between the Cotswold and the common coarse woolled sheep, turn a small flock of each into a small pasture of 50 acres and see the result. The Cotswolds will find their way over perhaps not more than half the lot during the season, just enough to get what they need. In the fall they are so fat they can hardly go, and I have occasionally had one drop dead, when I could find no other cause but over-fatness. The other flock in the meantime have travelled this lot over as often as once a day, and if there is a gap in the fence they are sure to find it, and do not always stop to find a gap, but go over the top of the fence without ceremony, and off they go; and now for a chase to get them in again. They have kept in just good running order; they have not taken one half as much flesh as the others, and will not sell for more than two-thirds as much per pound; while at the same time they have consumed more feed.

I can handle my sheep as I can handle my cows. I can go myself along and drive any one of my full-blood sheep to any part of the farm. I do not have to get up my sheep at weaning time, but with a small boy go into the pasture of seventy-five acres and separate the lambs for their mothers, and drive them half a mile to the house.

The lambs should be taken from their mothers in August, and the wether lambs kept gaining until the winter after they are three years old.

In the three shearings you will get from 25 to 30 lbs. of well washed wool from each sheep. They will then weigh from 200 to 300 lbs. each. This mutton will bring from 8 to 12 cents live weight. The ewes should have their first lambs when two years old; the last one when four, and very early, so the lambs may be weaned the first of August; the ewes then put into good feed will get as you can wish with but little grain. These will average 200 lbs. or more.

It is necessary that we should be constantly studying the demands of the market. The scarcity of heavy mutton makes it always in good demand and at a good price, and the demand is fast increasing.

HOG CHOLERA AND CHICKEN CHOLERA.

A friend who has spent the last year in Canada, in the nearer and remote neighborhood of London Ont., tells me chicken cholera there is almost, if not quite, unknown. He has farmed in Central Illinois, and is of the opinion that the almost sole use of corn is the cause of chicken cholera. I find his opinion largely shared by a number of observing farmers of my acquaintance. Corn if the analysis are to be relied on, contains less of the phosphate and more of the fatty matter than any other of the cereals, and it is the poverty of corn in the first, and to the excess of it in the last, that myself and friend empirically concluded produces the cholera, as it is called, in hogs and chickens. Where corn is so common and abundant as on Illinois farms of every kind, it is impossible to prevent chickens from getting corn at will, and where they have this opportunity they will eat nothing else of the grain kind. So of hogs. But it is noticeable that it takes several years and two or three generations of corn feeding to break down the constitution so that the ex-

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clusive use of this one grain bring cholera upon imported races which have been otherwise fed. As an example of this, I recall one fowl fancier who got together specimens of half a dozen different breeds, and lost, in less than fifteen months, everything clean out, but Houdans, which were of a late importation from France. That English bred fowls, especially Cochins and Brahmas, suffer as badly, soon after arriving, as home bred, is, I suppose, due to the fact that English breeders feed corn meal, because it is not only the cheapest food, but makes the greatest weight in the shortest time,

So far, no remedy has been found for chicken or hog cholera; and so on would naturally conclude that none would be, since the trouble is a radical defect in the constitution and organization, due to the too exclusive use of one article of food. But then, if it were not for the cholera, pigs and chickens are bred and fed in Central Illinois under such favorable conditions that both would increase so fast as to become means for annoyance rather than source of profit—B. F., in Country Gentleman.

KINGSNOTE AGRICULTURAL ASSOCIATION.

Two-Year Old Beef.

At the meeting of the Kingsnote Agricultural Association, on a discussion of the best and most profitable method of producing two-year-old beef, Mr. Hayward said:

The present high price of butcher's meat makes it an important consideration whether the markets cannot be better supplied by bringing out beef at two years old than at a greater age, if it can be done profitably. One farmer stated as his experience that he could not afford to follow such a losing business as buying lean bullocks at \$18 to \$20 each, to begin upon. His plan, which he said paid very well, was as follows:

Twelve cows are engaged in rearing calves, which are fattened from birth, and are sold at about twenty-two months old, when they weigh 100 to 120 stone. The calves are, of course, well bred, while those calves which have to be purchased are carefully selected. They are weaned at three months old having been previously kept short of milk and fed partly on gruel, and thus induced to feed on cake and hay. Supposing them to be weaned in December, their daily ration at six months old would be 1 1/2 lb. or 2 lb. of linseed cake, with the same quantity of bean meal, and a sufficient amount of grains, mangel and hay. The cake and meal are gradually increased, till at twelve months old the calves get twice the quantities just mentioned. In summer the other articles of diet which have just been named are replaced by trifolium, which is an excellent food while it lasts, tares, which are also good, and grass, with second cut clover. The whole of the green food is cut and brought to the animals in their sheds and houses, which they do not quit until the proper period arrives for sending them to the butcher, by which time their daily rations have been increased to 4 lbs. of cake and 6 lbs. of bean meal, with roots and a moderate allowance of hay.

The principle of management is to let the animals continually master or outgrow their food, pushing them on rapidly the last three months, so as to land them fat at the desired haven at something under two years old. There is no reason to doubt that from 150 to 120 stone, or ten to twelve score a quarter, can be attained at two years old, by high feeding, but as spending a guinea to obtain a pound is a losing business, it is necessary to ascertain by actual calculation whether such an expensive system can be profitably carried out. From a moderate computation, based upon the quantities of food given in the statement just quoted, and taking into consideration the necessary incidental expenses, it is calculated that each animal fattened on the above system costs \$33 16s. 3d. The gentleman who adopted this system states that he sells his fat cattle at 100 weeks old at from \$33 to \$40 a head, and so realizes a profit.

But the question arises, Could not a saving be profitably effected upon many farms by turning the animals out to grass the second summer, thus saving the feeding upon artificial food six months, even though they might not be ready for the butcher quite so soon? He was quite satisfied that, even if early maturity is not the object aimed at, it is wrong to turn calves out until they are a year old. By being kept in they will escape the "husk," and other complaints young stock are liable to. Another account of a different and much more economical plan of rearing and feeding stock, which has been followed for several years on a farm in the south of Scotland, is worth quoting:

"The lot of fourteen calves to which the account refers, were partly purchased and partly bred upon the farm. Those purchased averaged 43s. a head, at which price they are

all valued. The calves, with one exception, were calved between the 5th March and 18th April, the average date of calving being the 17th March. For the first twelve weeks they were fed with 1 1/2 gallons of milk per day; for the next four weeks they had 1 gallon per day, and a half-pound of linseed cake, and were turned out to grass; they were then weaned, and the cake was increased to 1 1/2 lbs. They continued on this fare till about the 13th Oct., when they were housed at night and got 1 lb. of rape cake added to their allowance of linseed cake; this was their winter's fare, with the cleanings taken out of the feeding cattle's turpentine boxes, which was about a wheelbarrow load among the fourteen calves. They were turned out to grass on the 18th May, and seven of them grazed on grass till near the 13th October, at which date they were shut up in open courts with covered boxes for their food, and covered sheds; they got then an unlimited supply of white turnips and chaffed hay, and also 4 lbs. of cotton cake. Swedes were substituted for the white turnips sometime in December, and the extra foods were gradually increased. The average price which they fetched was \$44 7s. at the age of twenty-five months."

It is estimated that their total cost in feeding was \$28 14s. 6d., leaving a balance of \$5 1s. 6d. on each calf. Circumstances, however, must influence practices, and turning out calves to grass in the south of Scotland might answer, when it would not do in other parts. For the future he intended in his own practice to take the calves from their mothers at from a week to a fortnight old, giving them for the first six weeks two-and-a-half quarters of best milk morning and evening, and after that time three quarts of skimmed milk, warmed to the natural heat, for another six weeks. Each calf to have a separate stall and manger, and at three or four weeks old, when they begin to eat, to be fed with chaff, mixed with a little meal and cake. At twelve weeks old they will do without milk, and then a little pulped roots should be added to the chaff meal and cake. At this time they will not require to be kept in separate stalls, but may be put two or three together in loose boxes, where they should remain until the following summer. He found from experience that they did much better if not turned out to grass the first summer, and would be safe from "husk," which, particularly in low localities, is such a fatal disease. By this management they will first go to grass at fifteen or sixteen months old and will then do well until the autumn, when, if intended to be brought out fat at two years old, they must be stall or box-fed with a liberal allowance of meal and cake. No doubt cattle would arrive at greater weight at two years old, if never turned out, but their living in fields upon grass alone for six months, in the second summer of their lives, is a great saving of expense, and probably pays best.

The rapid increase in the population of the country, and consequently increased demand upon the supply of meat, made him think that the subject he had briefly introduced for discussion might be productive of some good. He thought they could not do better than try to increase the supply of meat by bringing their stock to maturity as soon as they possibly could; and as the man is said to be a benefactor to his country who can make three blades of grass to grow where only two have grown before, surely they would still greater benefactors if they could send three fat beasts to market instead of two.—Mark Lane Express.

EVES AND LAMBS.

"Raising lambs," says Mr. Boardman, "is the most important, and requires the most skill, care and attention of anything connected with keeping sheep. In this the shepherd displays his genius, and gives proof that he is worthy of the name. When we are compelled to raise lambs on the range, we prefer not to have them commence dropping before the 1st of May, (lat. 41 degrees,) until the worst storms are past, and there is a good bite of grass. When from twenty to sixty lambs are coming every twenty-four hours, the shepherd needs assistance in gathering the flock in the evening, and it is necessary, also, that he should be up with them occasionally through the night. It is a good plan under such circumstances, to have some plan of a portable picket fence, the pickets five or six feet high (to turn any dog or wolf) with which to make pens, into which may be driven those ewes which have dropped lambs through the day. This avoids the necessity of driving or carrying the lambs to the fold. If there are twenty or more lambs dropped during the day, it is better to put them in four or more pens, if ewes having lambs dropped about the same time are often puzzled to tell their own, and sometimes two ewes get to owning the same lamb, and by morning the cast off lamb is dead for want of milk. In such case, it would puzzle Solomon to tell which owned or ought to own the dead lamb, and which the live one. Ewes, as shepherds know, tell their lambs by the scream till they are two or three weeks old, after which they learn their bleat. Ewes

which drop lambs through the night in the fold, are left in it the next day. * * * when we are prepared with pastures, sheds, yards and other conveniences, we do not send the ewe flock off to the range till the lambs are dropped and all able to travel. The general practice in Central Illinois is to have a large shed into which to put the lambing flock in bad nights, and other sheds into which to put the ewes having lambs. Those ewes which lamb at night are put with their lambs in a yard or pasture by themselves; those lambing through the day are put in by themselves, and so forth night to day, and from day to night, as long as there are fields enough to keep them separate.

"The great art of raising large flocks of lambs consists in keeping them separate as much as possible while the lambs are young. When all the fields have got a bunch of lambs in them, the oldest bunches are doubled to make room for younger lots. This makes it easier for the shepherd to keep the run of them. He should visit each bunch two or three times a day, to see that all is going right; that each ewe owns her own lamb; that none are claiming others, lambs; that all the lambs suck, and if they are getting 'pinned' to the teats, and rub some dry dirt about the anus. A great part of the shepherd's time is spent at the 'fret ry,' as the shed in which the lambing takes place is called. On turning his flock out of the factory in the morning, he finds say, fifteen or twenty lambs, which have dropped through the night. He has now to slip them out of the flock and see that each ewe owns her own lamb, and must also watch till he sees every lamb suck.

"Frequently, a ewe's teats are so stopped that a weak lamb cannot draw the milk, in which case the shepherd catches her and strains it, suckling the lamb at the first time. A lamb which gets up when dropped and sucks itself is half-raised if proper watchfulness is observed afterwards. In the factory are small pens into which to put ewes which will own their lambs or to put ewes having lost their lambs to make them take a twin lamb from another ewe. This is done by skinning the dead lamb and putting the skin on the live one. As soon as the ewe can be made to own her lamb she is put out with one of the small bundles, first having been marked on some part of the body with red keel, the lamb receiving the corresponding mark. When a ewe has a 'jacketed' lamb she is put out, the jacket hung over her pen, and, if, on trial, she proves refractory, the jacket is again put on the lamb, when a second penning of two or three days will generally break her in. A ewe flock requires constant watching to see that no lambs lie down behind a stool of grass, get asleep, and so get left by the flock. When a ewe refuses to allow her lamb to suck it will sometimes be found that the udder is inflamed and tender; in such case draw the milk carefully by hand, and continue to do so as often as may be necessary to reduce the inflammation, taking care that the lamb is properly supplied.—Prairie Farmer.

HOG CHOLERA.

"G. W. C." of Ashley, Ill., writes that many pigs are dying in that neighborhood. I have had no experience with such diseases. I think if the so-called hog cholera should break out in my herd, I should separate all that were sick and put them in a dry, warm pen and keep them as quiet as possible, and give them the most nutritious and stimulating food and drink I could procure. If I lived near a slaughter house I would give them fresh blood. Or I would kill a few sheep or a steer and cut up the carcass into mince-meat, and boil it for a few hours, and give the pigs some beef tea or mutton broth mixed with cooked corn meal or oat meal gruel, or any easily digested and nutritious food. A little whiskey might also be given to stimulate digestion.

Some people seem to think that the reason why we have so much hog cholera is owing to the introduction of improved breeds of pigs. I think it is precisely the other way. What do we mean by an improved breed of pigs? Usually we mean a breed that has fine bones and little offal. A breed that is very quiet and that will turn the food it eats into flesh and fat. It is a breed that will eat and digest a stomachful of rich food and assimilate it. As a rule, the weak spot in all high-bred pigs is that their digestive powers are not as good as their assimilating powers. They can assimilate more food than they can digest. On the other hand, our common, coarse, unimproved hogs can usually eat and digest more food than they can assimilate. They are accustomed to forage for themselves. They have plenty of exercise and comparatively little food. Now then, if you take such a breed of hogs and endeavor to push them forward rapidly with rich food, it is easy to see how their blood could be poisoned by the excess of material which the animal is not able to convert into flesh and fat.

"Your remedy, then," says the Deacon, "is not to feed so high."

rather, my remedy would be to raise a better class of pigs. I would raise such pigs as would stand high feeding until they were fat

enough to go to market, and then I would dispose of them without delay. If you take pigs that are not accustomed to mature before they are three or four years old, and endeavor to so feed and force them that they shall be fit for market at twelve months old, or less, what can you expect but hog cholera? On the other hand, a breed that is accustomed, and has been for generations, to mature early, can be pushed forward rapidly without injury. I should expect the best success from pigs raised from a large, healthy, common sow, sired by a highly refined, thorough-bred boar of a breed distinguished for its gentleness, fineness of bone, little offal, early maturity, and fattening qualities. The mother would furnish the digestive powers and the sire the assimilating powers. These qualities combined with early maturity, fineness of bone and high qualities of meat, would give you precisely what a good feeder wants.—Walks and Talks on the Farm, in American Agriculturist.

COWS FOR THE DAIRY.

In a paper read before the Northwestern Dairymen's Association, Mr. Chester Hazen, while discussing the kind of cow most suitable for the dairy, remarked:

What is needed here in the West is the best cows we can get; and if well fed and cared for, there is no doubt but that they will yield a good profit to the dairymen. I believe every dairymen should raise some heifer calves every season from his best cows. And when you get them started keep them growing until they are cows. I cannot afford to raise calves and let them stand still or let them go back in the winter. Keep them growing, and if you do well by them, they will come in when two years old, and invariably make better cows than they will to come in at three years, because coming in at two years checks their growth in bone and develops their milking qualities, making a much more desirable cow; whereas if allowed to run until three years old they grow too coarse and masculine for first class milkers. This has been my experience in breeding milking stock.

If you wish to breed grade stock of any blood, breed from a full-blooded bull. A grade bull is not to be relied upon to produce anything like a uniformity of stock which would be a serious objection to a good dairyman or breeder.

A large, coarse cow, with heavy carcass to support, is not so profitable for the dairy, as a medium or undersized cow that is a good milker. It requires a certain amount of feed to support the carcass in proportion (usually) to its size, and a small cow, that will give as much milk as a large one, is decidedly the best for the dairy. But some would say the large cow, when she is no longer profitable for milk is worth more for beef. That may be true, but support 200 pounds extra of carcass for ten years, will much more than balance the difference in the value of the cows when fattened for beef. A good dairy cow that will pay for two or three times what her carcass is worth for beef every year in milk, is far more valuable for the dairy, even if the carcass is worthless for beef. But this is not the case. The real difference in favor of the large cow for beef is, only the difference in the number of pounds of beef.

I believe I can keep five cows of 800 pounds each on the same feed that would be required to keep four cows 1,000 pounds each, and if I breed carefully from first class milking stock, they would produce one-fifth more milk, or twenty per cent, which would be a net profit of twenty per cent., in favor of the small cows. Perhaps 800 pounds is rather light for a first-class dairy cow, but my experience is decidedly in favor of medium or undersized cows.

The feeding value of a crop of roots is shown by the practice of an Irish farmer, W. Bacon Jones, of Lisselaw, in the County of Cork. He says that with 50 or 60 acres of roots he has been in the habit of fattening 200 sheep and more than thirty heaves besides keeping 200 ewes and 200 hoggets (yearling ewes), and 60 cows and 70 to 80 young stock half yearlings and half two-year-olds, through a whole winter. His method of cultivation is as follows:—The sod is plowed with a skim plow, turning a furrow three inches deep of soil, which forms a mellow bed for the seed. This bed is cross-plowed in spring and well fertilized with barn yard manure, guano, and bones. The seed (Swede turnips) is sown early in ridges 28 inches apart, and the plants are thinned at 14 inches apart in the drills. Yellow turnips are sown later and thinned to 12 inches, and the white turnips sown still later are thinned to 10 inches. Wheat and grass follow the turnip crop. Upon the farm sugar beets have been tried and found to yield well, keep well, and answer a good purpose for fattening cattle. The crop or roots amount to 40 bushels to the acre.—Michigan Farmer.

UNCLE TOM'S COLUMN.

MY DEAR NIECES AND NEPHEWS:

I have heard from a great many of you during the last month, and have to thank you for your kind assistance. Some of my little friends complain because their letters have not been printed. Now I will tell them what is the matter.

THERE IS A HOLE IN UNCLE TOM'S POCKET, and it is a very curious hole too. Whenever I receive a real good letter, which I know will interest all my youngsters, that hole closes right up and keeps it for me. No fear of that letter being lost. But when there comes a letter in which there is nothing new or interesting, or which is just the same as what has been printed before, that hole opens out wide and the letter drops through. There is no chance of my finding it when it comes time to print. So, you are all to bear this in mind.—Remember the hole in Uncle Tom's pocket. When you write, put in something funny or new, something that you are quite sure will interest all the other little ones, or make them laugh. If you will all do that I am quite sure that the hole will disappear.

Do you see the little boy below. He appears to be very happy over something, and is dancing away like mad. What's the matter with him? I asked him what pleased him and he said, "Why, don't you know? Uncle Tom's got a son! That's what's the matter."



210. When is wheat like a blunt knife?
211. What is the difference between forms and ceremonies?

BELLA E. HESS.

Aggie Francis wants to be a niece. All right, Aggie, but when you send puzzles you must send along the answers also. Don't have me puzzling my poor old brains muddling over them. I am not so young as I was ten years ago.

Michael Steele, of Avonbank, writing on the 6th of April, says: "I suppose you will be very much surprised to hear that we have a cherry tree in bloom." Indeed I am; here it is the 21st, and lots of snow on the ground.

212. Which were made first, elbows or knees?

213. My number definite and known
Is ten times ten, told ten times o'er,
Though half of me is one, alone,
And half exceeds all count and score.
JAMES McELROY.

HIDDEN PLACES.

214. From England to America I came.
215. Ma, please give me an apple.
216. You must go west on the Grand Trunk.
217. Yesterday Mary landed here.
218. Oh! I owe you some money.
J. McE.

Rosalind Harrison says she has been having a good time sugar-making, eating taffy and visiting Aggie.

My old friend, Lizzie Forbes, is again on hand. She says she will do her best to maintain the reputation of the Ontario nephews and nieces, although she acknowledges that the Quebec ones are real smart. I always like to receive a letter from Lizzie, because she writes so well. Every word is clear and distinct, and she evily takes pain. Let me hear from you again, Lizzie.

Maple Lodge, April 3rd, 1874.

Dear Uncle Tom,—
Will you allow me to be one of your nieces? I would be so delighted to have all those nice girls and boys for cousins. I have been reading my cousins' letters. Some of them seem to think that big brothers are a humbug.—Well, now, I don't, for I have a big brother, and he is a big brother, and not the least bit of

a humbug. Why, I don't know what in the world I would do without him. Will cousin Jennie be so kind as to tell me how she finds big brothers a humbug. Good-bye for the present.
Your niece,
AGGIE SMITH.

Aggie sends some new puzzles and answers to old ones.

Newmarket, April 7th, 1874.

Dear Uncle Tom,—
What can I do to be adopted into your large and merry family? I never heard of a boy who was refused, so I hope by being good and useful to gain admittance into the circle. Besides I am a very small boy, so it will be easy enough to squeeze me into some little corner, and I am such a small boy that the girls won't bother with calling me a humbug. You're family don't seem to be equal in sex, you've got such a lot of nieces, so I'll step up on the platform and help balance my side. I vote for "Niece, P. Q." because I'm sure she's a jolly good girl. Your would-be nephew,
HERBERT C. IRWIN.

219. I am composed of 14 letters:
My 1, 2, 4 is a head dress,
My 7, 6, 2, 11 is to cure,
My 3, 10, 13 is a useful metal,
My 11, 5, 14 is a cover,
My 6, 9, 8 is a girl's name.
My whole is the name of one of one of Uncle Tom's Family.

Emma A. Nelson sends answers to some of last month's puzzles.
I have received a very nice letter from Estella Greene, with puzzles and scraps, and seeds, for which she will please accept my thanks.

Oakland Farm, April 13th, 1874.

Dear Uncle Tom,—
I think it must have been a pretty dull day when Kittie took her picture. She's dreadfully black in the face. It may be that her picture was taken very early in the morning for they say that "it is always darkest before the dawn." But perhaps this is "a cloud with a silver lining." Your affectionate niece,
LAVILLA HEACOCK.

220. My whole of course you've often heard,
A name to many dear;
Read carefully and scan each word,
You'll find it written here.
L. H.

221. How many animals can you make out of this sentence: Nor scratch had he, nor harm.
SAMUEL HAMMOND.

222. Why does a cow look over a hill?
ROBERT KENNIE.

223. In spring I look gay,
Decked in comely array;
In summer more clothing I wear;
As colder it grows
I throw off my clothes.
And in winter quite naked appear.
D. C. M.

224. I have but one eye, and that without sight,
Yet it helps me whatever I do;
I am sharp without wits; without senses I'm bright,
And I doubt not I'm useful to you.
D. C. M.

HIDDEN CITIES.

225. Abated is the wind, so Richard can go.
226. You will have nice times I hope.
227. Grandpa risked his life once to save mine.
MATTHEW PARKINSON.
228. My first is in slough but not in mire,
My next is in harp but not in lyre,
My third is in praise but not in greet,
My fourth is in rain but not in sleet,
My fifth is in sound but not in lame,
My whole is a country of ancient fame.
M. P.

Wawanosh, April 7th, 1874.

Dear Uncle Tom,—
I've just a heap of things to tell you.—Brother Will has a little pup, a black and tan terrier. It often barks at an old cat I have which is much larger than himself. The dog's name is Frisk; my cat's name is Mag, and we have a big dog called Nep. Do you want to take them all into your family? My little brother was rocking baby, and suddenly called out: "Ma! when I rock baby he puts his eyes out." I remain your affectionate nephew,
WALTER J. AGNEW.

229. I am composed of eight letters:
My 5, 1, 2, 3 is part of an animal,
My 5, 7, 8 is a boy's name,
My 2, 3, 8 is a liquid,
My 6, 7, 8 is a weight,
My 4, 2, 8 is a liquor.
EDDIE S.

My little friend, Minnie McNally, has written to me all about her kittens, and her school, and her lessons—a very pleasant little letter.

DECAPITATIONS.

230. Behead a girl and leave to help.
231. Behead a grain and leave warmth.
232. Behead an animal and leave a verb.
AMY COULTER.

233. Peas' pods in a pot, peas' pods cold; peas' pods in a pot, nine days old. Spell that with four letters.
MINNIE ROSE.
I have to leave some of the letters over for next time.

ANSWERS TO APRIL PUZZLES.

194.—Hudson. 195.—Team, steam. 196.—Waist-coat. 197.—Jack and Jill. 198.—50, because a "Miss is as good as a mile." 199.—When it is about to strike. 200.—His daughter. 201.—Lark-spur. 202.—Car-nation. 203.—Apple tree. 204.—A-bed. 205.—Frontenac. 206.—The hog, for he has a hog's head full. 207.—Dog. 208.—Bear. 209.—Panther.

Uncle Tom's Scrap Book.

Lillie Chester asks to be admitted into our family, and I am so well pleased with her letter that I admit her and her sister with great pleasure. She speaks of her schoolmates being so smart; well let them write to our column and then I will be better able to judge. Lillie has written this month again, and sends a very good puzzle, which will appear next time. So will some from Maud Muller; I want her correct address.

Here is one of Lillie's selections:

THE ORIGIN OF SCANDAL.

Said Mrs. A.
To Mrs. J.,
In quite a confidential way,
"It seems to me
That Mrs. B.
Takes too much something in her tea."

Then Mrs. J.
Went straight away
And told a friend the self-same day,
" 'Twas sad to think "
(Here came a wink)
"That Mrs. B. was fond of drink."

The friend's disgust
Was such she must
Inform a lady which she nussed,
That Mrs. B.
At half-past three
Was that far gone she couldn't see.

This lady we
Have mentioned, she
Gave needlework to Mrs. B.,
And at such news
Could scarcely choose
But further needlework refuse.

Then Mrs. B.
As you'll agree,
Quite properly she said, said she,
That she would track
The scandal back
To those who made her look so black.

To Mrs. A.,
Who then did say:
"I no such thing could ever say;
I said that you
Had stouter grew
On too much sugar, which you do."

AN ANXIOUS MOTHER.—"Ephraem, come to yer mudders, boy, whar you bin?"
"Layin' wid de white folkes' chillun."
"You is, eh? See hyar, chile, you'll broke your old mudders' heart, and bring her grey hairs in sorrow to de grave wid yer recklessness an' carryings on wid ebil assoayshuns. Habn't I raised you up in de way you should ought to go?"
"Yessum."
"Habn't I reezened wid you, and prayed wid you, and deplored wid you in his buzzum?"
"Yessum."
"An' isn't I yer natuerl detector an' gardeen fo' de law?"
"Yessum."

"Well, den, do you' spouse I' se gwine to hab yer morals rup ured by de white trash? No sah! You get in de house dis instep; an' if I eber catch you 'municating' wid der white trash any mo', yo' niggard, I'll break yer black head wid a brick!"
"Yessum."

A CURE FOR LOVE.

Twelve ounces of dislike; two ounces of resolution; two ounces of the powder of experience; one quart of the cooling water of consideration; a large spriz of thyme. Sweeten with the sugar of forgetfulness; simmer them all together over a slow fire, skim it with the spoon of melancholy, put it to the bottom of your heart, cork it down with the cork of a sound conscience, and let it remain, and you will instantly find relief.

The above mentioned drugs are to be obtained of understanding, next door to reason, in prudent street, in the township of contentment, in the county of stay-at-home, the Province of remembrance, and to be continued.
LIZZIE ELKINGTON, Paris.

An original neighbor of old Rip Van Winkle was said to be so lazy that when he went to hoe corn, he worked so slowly that the shade of his broad-brimmed hat killed the plants.

An Irishman, on being told that a newly invented stove would just save half his usual fuel, replied: "Arrah, then, I'll have two, and save it all, my jewel."

A witty little Aberdeen boy, suffering from the application of the birch, said: "Forty rods are said to be a furlong. I know better; let any one get such a plisguy whipping as I've had, and he'll find out that one rod makes an acter."
MICHAEL STEELE.

A West India man who had a remarkably fiery nose, was sleeping in his chair. A negro boy who was in waiting observed a mosquito hovering about his face. Quashi eyed the insect attentively, and at last saw him alight on his master's nose and immediately fly off again. "Ah!" exclaimed the negro, "me glad to see you burn your foot."
NELLIE V. MCGANNON.

How often can you repeat each of the following in one breath, without making a mistake:

1st.—Theophilus Thistle, the thistle sifter, sifted a peck of unsifted thistles; where is the peck of unsifted thistles Theophilus Thistle, the thistle sifter, sifted?
2nd.—Quiz! al quiz, kiss me quick.
3rd.—Three grey geese flew over three green hedges; grey were the geese and green were the hedges.

A POETICAL GRAMMAR.

Remember, though box
In the plural makes boxes,
The plural of ox
Should be oxen, not oxes.

And remember, though fleece
In the plural is fleeces,
That the plural of goose
Isn't geeses nor geces,

Mouse, it is true,
In the plural is mice,
But the plural of house
Should be houses, not hicc.

ALLITERATION.

Every English eagle eats eels eagerly; each eel emits electricity.
Fanny Fanny Fagan fairly fainted, fanning fat Frank Frost freely.
Go, goose, give George Green's great grown gander green ground groats.
JENNIE FINCH.

My Niece, Maggie C. Millar, sends answers to puzzles and the following scraps.

THE QUESTION SELECTED.—Mr. Skillman had just married a second wife. On the day after the wedding Mr. Skillman remarked: "I intend to enlarge my dairy." "You mean our dairy, my dear," replied Mrs. Skillman. "No," quoth Mr. Skillman. "I intend to enlarge my dairy." "Say our dairy, say you—," screamed she, seizing the poker. "My dairy! My dairy!" yelled the husband. "Our dairy! Our dairy!" screeched the wife, emphasizing each word by a blow on the back of her cringing spouse. Mr. Skillman retreated under the bed. In passing under the bed-clothes his hat was brushed off. He remained there under cover several minutes, waiting for a lull in the storm. At last his wife saw him thrust his head out at the foot of the bed, much like a turtle from his shell. "What are you looking for?" exclaimed the lady. "I am looking for our hat, my dear," said he.

Clara L. Boake, sends the following scraps among many others.

DERIVATION OF BUSS.—BUSS to kiss. Rebus— to kiss again. Bianderbuss—two girls kissing each other. Ombibus—to kiss all the girls in the room.

An urchin not quite three years old, said to his sister, while munching a piece of gingerbread, "Siss, take half of this cake to keep to afternoon, when I get cross." This is nearly as good as the story of the child who bellowed from the top of the stairs, "Ma, Hannah won't pacify me!"



MINNIE MAY'S

DEPARTMENT.

Minnie May's Cook Book.

Poplar Grove, April 6, '74.

Dear Minnie May,—

As I am greatly interested in your column I thought I would send you some recipes for your Cook Book. Here is one for a

BRIDE CAKE.

Take butter, 1½ lbs.; sugar, 1¾ lbs., half of which is to be Orleans sugar; eggs, well beaten, 2 lbs.; raisins, 4 lbs., having the seeds taken out and chopped; English currants, having the grit picked out and nicely washed, 5 lbs.; citron, cut fine, 2 lbs.; sifted flour, 2 lbs.; nutmegs, 2; and as much mace in bulk; alcohol, 1 gill to ½ pt., in which 12 or 15 drops of oil of lemon have been put. When ready to make your cake, weigh your butter and cut it in pieces, and put it where it can soften, but not melt; next, stir the butter to a cream and add the sugar, and work till white; next, beat the yolks of the eggs and put them to the sugar and butter. Meanwhile, another person should beat the whites to a stiff froth and put them in.—Then add the spices and flour, and last of all the fruit, except the citron, which is to be put in about three layers, the bottom layer about an inch from the bottom, and the top one an inch from the top, and the other in the middle, smoothing the top of the cake by dipping a spoon or two of water upon it for that purpose.

The pan in which it is to be baked should be about 13 inches across the top, and 5½ or 6 inches deep, without scollops, and 2 three-quarter pans, which it will fill also. They will require to be slowly baked about 3 to 4 hrs. Try whether the cake is done by piercing it with a broom splinter, and if nothing adheres, it is done. Butter the cake pans well, or if the pans are lined with buttered white paper, the cake will be less liable to burn. Moving cakes when baking tends to make them heavy.

FRUIT CAKE.

As a side accompaniment to the bride cake, you will require many fruit cakes, which are to be made as follows:

Butter, sugar, English currants, eggs and flour—of each, 5 lbs. Mix as in the bride cake. Frosting and icing for cake:—The whites of eggs beat to a perfect froth; stiff, pulverized white sugar, 2 lbs.; starch, 1 tablespoon; pulverized gum arabic, ½ oz.; the juice of one lemon. Sift the sugar, starch and gum arabic into the beaten eggs, and stir well and long. When the cake is cold, lay on a coat of the frosting; it is not best to take much pains in putting on the first coat, as little bits of cake will mix up with it, and give the frosting a yellow appearance, but on the next day make more frosting the same as the first, and apply a second coat, and it will be white, clear and beautiful; and by dipping a knife into cold water when applying, you can smooth the frosting nicely.

PIE-CRUST GLAZE.

In making any pie which has a juicy mixture, the juice soaks into the cake, making it soggy and unfit to eat. To prevent this, beat an egg well, and with a brush or a bit of cloth wet the crust of the pie with the beaten egg just before you put in the juicy mixture. For pies which have a top crust, also wet the top with the same before baking, which gives it a beautiful light brown color.

Here is a recipe for

KEEPING WEEDS DOWN.

To destroy weeds in walks, take water, 10 gal.; stone lime, 20 lbs.; flour of sulphur, 2 lbs. Boil in an iron kettle; after settling, the clear part is to be poured off and sprinkled freely upon the weedy walks.—

Care must be taken, for it will destroy the flowers if touched. No more at present.

ADDIE G. BRAY.

Newtonville, April 3, 1874

A good house-wife is one of the first blessings in the economy of life; men put a great value upon the housewife qualifications of their partners after marriage, however little they may weigh them before; and there is nothing which tends more to mar the felicities of married life than a recklessness or want of knowledge in the new house-keeper, of the duties which belong to her station. We admire beauty, order, and system in everything, and we admire good fare. If these are found in their dwellings, and are seasoned with good nature and good sense, men will seek for their chief enjoyment at home; they will love their home and their partners, and strive to reciprocate the kind offices of duty and affection. Mothers that study the welfare of their daughters will not fail to instruct them into the qualifications of married life; and the daughters that appreciate the value of these qualifications will not fail to acquire them.

MOTHER'S CAKE.—2 cups of sugar, 1 of sour cream, ½ cup of butter, 4 eggs, 2 of raisins; soda and spice.

BATTER PUDDING.—1 quart of sweet milk, 5 eggs, flour enough to make a thin batter; bake half an hour, and serve with hot wine sauce.

STEAM PUDDING.—1 cup of sour milk, 1 teaspoonful of cream-tartar, 1 half-teaspoonful of soda, 2 eggs, 1 teaspoonful of salt; make as thick as pancakes, and steam one hour. Add whatever fruit you like.

Mrs. J. McCULLOUGH.

Stephen, April 15, 1874.

Dear Minnie May,—

As the ADVOCATE is open to the farmers' wives as well as to Uncle Tom's nephews and nieces, I think I must take up courage and contribute something to its columns. I don't think I shall have a prize this time, but first must be first. I can give you some receipts which may prove useful to some of your readers:—

TO RENDER BOILED FISH FIRM.—Put a small bit of saltpetre with the salt into the water in which it is boiled; a quart of an ounce will be sufficient for a gallon of water.

TO FRY TROUT.

Clean and dry them in a cloth; beat the whites of four or five eggs on a plate, and dip the trout first in the egg and then in fine bread crumbs; fry to a nice brown, and serve with crisp parsley. Excellent!

PEACH SALAD.

Pare and slice half-a-dozen fine ripe peaches, arrange them neatly in a dish, strew sugar thickly over them, and pour on them two glasses of wine, or brandy, if preferred.

PICKLED ONIONS.

For one quart of peeled onions take one quart of pale white wine vinegar, add to it a desert spoonful of salt, one ounce of whole white pepper; bring these quickly to a boil. Take off the scum, and put in the onions; simmer them for two minutes only, turn them into clean stone jars, and when cold tie a skin or two folds of thick paper over them.

WHITE CURRANT JAM.

Boil together quickly for seven minutes equal quantities of fine white currants, picked with the greatest nicety, and of the best sugar, pounded; stir the jam gently the whole time, and be careful to skim it thoroughly. Just before it is taken from the fire, throw in the juice of one good lemon to four pounds of fruit.

GOOD, SMALL RICH CAKES.

Whisk four eggs light, add to them half-pound of fine sifted sugar; pour to them by degrees a quarter pound of clarified butter as little warm as possible; stir lightly in with these four ounces of dry sifted flour, beat well for ten minutes. Put into small buttered patty-pans, and bake the cake for fifteen minutes. They should be flavored with lemon, mace or cinnamon, according to the taste.

A CHEAP Suet Pudding.

With a pound of flour mix well an equal weight of boiled and finely pressed potatoes, a quarter pound of suet well minced, a teaspoonful of salt; make into a stiff batter with milk, tie in a wet or floured cloth, and boil for one hour and ten minutes.

TOMATO CATSUP.

To a half-bushel of ripe tomatoes, sealed and skinned, add one quart of best vinegar, one pound of salt, quarter pound black pepper, one ounce of African Cayenne, quarter pound Allspice, one ounce cloves, one pound mustard, six good large onions, two pounds brown sugar, and one handful of peach-leaves. Boil these together for three hours, stirring constantly to keep from burning. When cool strain through a fine sieve, and bottle it for future use. It will improve by keeping, and give zest to appetite even under the ribs of death.

BLACKBERRY SYRUP.

Blackberry Syrup for Cholera Morbus:—Two quarts high bush blackberry juice, one pound loaf sugar, a half-ounce nutmeg, ½ ounce cloves, ½ ounce cinnamon, ½ ounce allspice; pulverize the spice and boil all 15 minutes; when cold add 1 pint brandy.

TO BLACK A BRICK HEARTH.

Mix a portion of blacklead with a little soft soap and water; boil and apply with a brush. ELIZABETH BASTARD. Stephen, April 15, 1874.

DEAR MINNIE MAY,—As to the principles of cooking, I think almost any woman can cook if she has the wherewith to cook with; to cook economically is an art, and to save in cooking is what everyone should learn. Money making is an art; now, there is more money wasted in the kitchen than anywhere else. Many a hard working man has his substance wasted in the kitchen; and it is not so much that we earn as what we have that makes us well off. While some put dimes into pies and cakes, others only put cents, and the cent dishes are the healthiest, and a few plain and cheap receipts by which Jennie Jones might profit, perhaps won't be out of place. It is every woman's duty to make the most of what she has intrusted to her. We are commanded to gather up the fragments, that nothing be lost.

A NICE PLAIN TEA CAKE.

4 eggs, 2 cups nice brown sugar, 1 teaspoonful soda, 3 cups sour milk, 1 cup melted lard or half butter, half a grated nutmeg. Sift in flour, sufficient to make such a consistency that it will not run from a spoon when lifted upon it.

A SURPRISE CAKE.

1 egg, 1 cup sugar, ½ cup lard or butter, 1 cup sweet milk, 1 teaspoonful soda, 1 teaspoonful cream of tartar. Flavor with lemon or spice. Use flour sufficient to make the proper consistency, and you will be surprised to see its beauty.

Here is a nice plain gravy, far healthier than pork gravy, and nice with all kinds of vegetables.

A NICE PLAIN GRAVY.

Peel and slice a few onions and boil in 3 pints of water until done; add salt to suite the taste; then mix a tablespoonful of flour with a few spoonfuls of milk, and stir into the gravy; add a small piece of butter.

A PLAIN BREAD PUDDING.

Take a dry piece of bread and put it in cold water until soft, then press out the water and break it up fine, and enough to put in a 4 quart dish; put in 3 eggs, a little soda, sugar to taste and ¼ pound of currants; a little spice and milk enough to fill the dish; bake 2 hours. Pieces of bread, that would otherwise be wasted, may thus be made into nice puddings.

If Mrs. McIntosh will use the Pain King prepared by Mr. Robert Stark, of Woodstock, she will find it a very good thing to stop pain and decay in teeth, as I have tried it and know it to be the best thing, and if the teeth are hollow put pulverized saltpetre into them when they are painful. Lakeside, April 10, 1873. E. S.

Dear Minnie May,—

I have long been intending to write you again, but somehow one thing or another would turn up that I could not get at it, but I will endeavor to be more mindful in future. Here is a cheap and simple cake, which I will call

JENNIE'S CAKE.

One cup buttermilk, half a tea spoon soda, one cup sugar, a tablespoonful of butter, one cup and a half of flour; sprinkle a few currants on the top. Bake it in a flat pie dish. A little lemon improves it, or it is nice with a small tablespoon of ginger, or a cup of currants. So you see it may be varied to make two or three kinds of cake.

BURNSIDE PUDDING.

If you are caught by company coming just at dinner time, and no dessert ready, take a half dozen or so soda biscuits; pour boiling water over them to cover them; let them stand till ready to serve dessert; then help out a biscuit to each, with some cream and sugar over, and if you wish, and have it to spare, a teaspoon of nice jelly. It makes a delicious dessert, and is so easy to make. The steam cooked biscuits do not soak well.

Here is another nice pudding:

COTTAGE PUDDING.

Two cups flour, one of sugar, one of milk; two tablespoons butter, one teaspoon cream-tartar, one egg. Beat all together, and add one teaspoon soda. Flavor with lemon.—Bake one hour, in a moderate oven. Serve with cream or sauce.

VARIETY CAKE.

One cup and a half of sugar, two cups and a half of flour, half cup of butter, half cup sweet milk, three eggs, one teaspoon cream tartar, half teaspoon soda, a little salt. This will do as a loaf cake, in which case it improves it to flavor with lemon or rose-water, and ice it; or you make it into patty cakes, sticking two or three currants on the top, or you may bake it on flat tins for jelly cake.

In making cookies or other flat cakes, it improves their appearance very much to make a whip with the white of one egg beaten up, with a scant tablespoon of white sugar. Boil a few raisins in a little water. When the cakes are cooled, put on a little of the whip in the centre of each cake, and lay a raisin on top; return to a cool oven to set.

Stanley, April 15th, 1874.

Dear Jennie Jones,—

Your letter moved my sympathy, for I too have frequently felt as you did. Let me try, if I can, to cheer you up a little. Are you not looking down too much on your work as something degrading? Do not allow yourself to take this view of it; look on it rather as the duty God has given you to do for Him. In this light the most menial service is ennobling, because done for Him.—As Keble's beautiful hymn has it:

"The trivial round, the common task Shall furnish all we ought to ask, Room to deny ourselves—a road To bring us daily nearer God."

Then, too, do not make yourself a slave to your work. I mean by making yourself more work than is necessary. By all means let John and the boys have variety in their meals, but do not give them puddings that take three hours to make. Give them simple tasty changes, which are inexpensive and wholesome. If you have apples you can make a great variety of nice dishes with very little labor. Do not give them many fine things at once, but distribute them through the days. Another great economy of time is to have your work for the day all arranged beforehand in your head. Let the different heavy departments of work come on different days, in regular routine. Have every duty done in its proper time. By attention to the planning of one's work, one may gain an hour or two for reading or otherwise improving the mind. Take good walks out of doors, not down to the barn-yard, but out of sight and sound of everything that can annoy the mind by reminding it of petty cares, unless you are like a girl I once knew, whose admiration of a lovely green field was based on the fact that it would be such a nice bleaching ground! There is nothing like the fresh open air for dispelling the "blues" and raising the spirits. Dear Jennie, do not despond; let your thoughts frequently rise to that better land where there is no more weariness.

Yours sympathizingly,
MARY KAY.

We have to lay over several communications for next month.

Veterinary.

THE DANGER OF CATARRH.

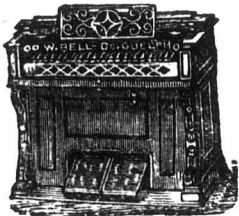
From the fact that most people are in the habit of looking on catarrh in the horse as a very trifling affection, and consequently requiring little or no intervention of remedial agencies, the following remarks are made to show the necessity of checking in due course the discharge of mucus from the nostrils. The great number of cases of nasal gleet and its sequels, farcy and glanders, are caused by a continuation of catarrhal discharge in the horse whose system is already vitiated by disease. The discharge in the early stage of the disease is of a whitish and flaky character, and free from smell; is very irregular in quantity, but as the disease progresses the discharge increases and is of a very offensive odor. As the mucus continues to flow over the surface of the very sensitive membrane of the nose, it, in its turn, adds to the irritation and tends more and more to increase the virulence and inflammation, until in process of time, ulceration is the consequence, when the lymphatics partake of the irritation and the glands become affected with the poison. We sometimes find it manifests extreme resistance and obstinacy to treatment; it will for a time combat any and all remedies we can bring to bear against it. As the disease advances, the glands under the tongue increase in size, the patient is troubled with a cough, he becomes hidebound and evinces the picture of distress.

The cause now assumes a dangerous aspect, the discharge becomes purulent in its character and acquires a tenacity and clings like glue about the hairs that fringe the nostrils. The membrane becomes more and more unhealthy in appearance, small straw-colored stars (these are undeveloped ulcers or chancres) present themselves. The animal, snuffing, foretells the scabby state high up in his head, and the swelling about the lips and nostrils will indisputably proclaim that farcy as well as glanders has supervened, and it is now our duty, to destroy the patient. The disease may assume this character in a week or ten days, or it may be three months, after the attack of catarrh, and in some cases it may be years.

As remedial agencies in nasal gleet and farcy our greatest hope must rest in sulphates of copper and iron, cleanliness, good food and fresh air. In all cases where there is a discharge from the nose—the result of a cold—the horse should receive extra attention and have the throat blistered or bathed daily with strong stimulating liniment. —*Western Farm Journal.*

The most complete check upon robbing bees is to place a bunch of grass or wet hay over the entrance to the hive. The bees will find their way to the entrance to their own hive, and the robbers will be caught by the sentinels in passing through the grass, and soon cease their pilfering.

G. MOORHEAD,
WHOLESALE AND RETAIL
Manufacturer of Furniture,
UPHOLSTERER, &c.
1-1f King Street, London



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The above mentioned are all three dollars per dozen.

I have spared neither trouble nor expense in procuring the best fowls to be had, and will guarantee the eggs pure and fresh and packed in the most careful manner. If the eggs do not hatch satisfactorily, others will be sent for half price. N. B. Do not set the eggs in too dry a place, unless you damp them occasionally. Address JOHN WELD, LONDON, ONT

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FOR HATCHING,
FROM THIRTY VARIETIES OF PURE-BRED FOWLS. Having during last fall and winter imported direct from a number of the best yards in England, some most grand Stock Birds, and at a very large cost, being some of their best birds, which have won First Prizes and Cups in England, I feel sure I can furnish eggs from some of the best birds in Canada, if not in America, as I have won First Prizes on them at all our large Shows in Canada, last fall, and at the large Poultry Show held in Guelph this spring, and several First and Specials and Silver Cup at Detroit, Mich., last December, and at Buffalo, N. Y., in January, from nine varieties shown I was awarded nineteen prizes, and with the strongest competition ever known in America.

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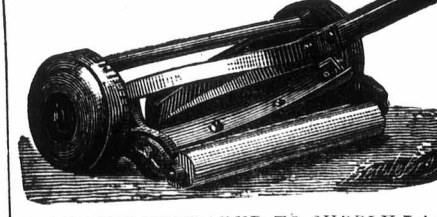
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Reserve.....350,000
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BEST LAND IN THE WEST
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\$ 231,242 25.
Cash and Cash Items, \$72,289 55.

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J. S. SMIT Sheep and Du
JOHN E ship, Breeder
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J. BILLI in Canadian good Horses,
H. E. IRV Cattle, South shire Pigs.
N. BETHE Horns, Berks and Leicester
DAWS & Breeders of A
J. PINKH cattle.
WALTER hort Horses
JOHN CR Heavy Draug
RICHARD wold, Leiceste
W. LANG and Berkshire
A. PARK
J. FEATH Suffolk, and
GEORGE M U Short Horn and Berkshire
JAMES L breeder of A
BERKSHIRE Pigs
GEORGE and breeder of
JOHN SC ter Sheep and
THOS IR Breeder of Yorkshire an
BRODIE'S shire Pigs and die, Rural E Woodville, J ville, Ont.
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Berkshire Pigs
R. LEAN Sheep and B
G. MORT Cattle.
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F. W. STO and Breeder Cotswold and Yorkshire
JAMES of Essex Pigs.
J. R. HUN Breeder of Short Horn
FOR SALE Catalogues f
THREE Y SALE. A
JOHN EED Breeder of L
WM. ASH Down She
THOS. G of Ayrshire
PETER CO Cattle.
EDW. JI Horns, Leic White Pigs.

Cards inserted in this list for one dollar a line per year if paid in advance; \$1.50 if in arrears

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R. S. O'NEIL, breeder of Lincoln and Leicester Sheep and Short Horn Cattle. Birr P. O. 1-y

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JOHN EEDY, Granton P. O., London Township, Breeder of Leicester and Cotswold Sheep.

G. WELDRICK, Thornhill, Breeder of Cotswold Sheep. 11-u

GEO. JARDINE, Hamilton, Importer and Breeder of Ayrshire Cattle and Leicester Sheep. 11

J. BILLINGER, Richmond Hill, Ont., dealer in Canadian Bred Stallions. Best prices given for good Horses, and some first-class Horses for sale. 8-tf

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N. BETHELL, Thorold, Ont., Breeder of Short Horns, Berkshire and Yorkshire Pigs, Southdown and Leicester Sheep. 8

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Catalogues furnished on application.
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THREE YEAR OLD AYRSHIRE BULL FOR SALE. Apply at this office.

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OFFICE DUNDAS STREET WEST. (Late Huron & Erie Office.)

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JNO. A. ROE, Sec. & Treas. London, April 30, 1873. 6-tf

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 - Evergreens and Bulbous Roots.
 - New and Rare Green and Hot House Plants.
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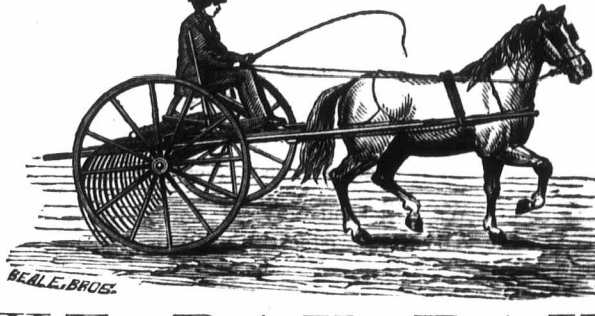
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- 7th—The teeth are so shaped and attached that they do not scratch or harrow the ground like most Steel Teeth Rakes.
- 8th—It is easier worked than any other Rake.
- 9th—The hay will not run out at the ends of Rake.
- 10th—It can be used to good advantage for spreading hay.
- 11th—The seat can be raised or lowered, to suit size of person operating.

Agents Wanted. Send for Price List, &c.

All orders addressed to the undersigned at Brantford will be promptly attended to.

A. HOWELL.
MANUFACTORY: BRANTFORD

JOHN MILLS
Wholesale and Retail Bookseller, Stationer and News-dealer, Richmond-st., London. American papers received twice a-day from New York. English magazines received weekly from London. London, Ont., Oct. 28, 1872. 12-tf



MARKHAM BELL FOUNDRY

- No. 1 Bell, 15 inches diameter—yoke & crank... \$ 8
- No. 2 " " " " " " " " " " " " " " 10
- No. 3 " " " " " " " " " " " " " " 16
- No. 4 " " " " " " " " " " " " " " 28
- No. 5 " " " " " " " " " " " " " " 50
- No. 6 " " " " " " " " " " " " " " 70
- No. 7 " " " " " " " " " " " " " " 120

Bells Warranted for one Year.
There are about 1800 of the above bells now in use and giving the best of satisfaction, costing only one-third the amount of ordinary bells, and are all warranted one year. Encourage home manufacture and purchase a warranted article. Farmers! throw aside those dinner horns, which cause the ladies to get swelled necks by blowing. JONES & CO., Markham P. O., Ont. W. Ward, Agent, London.

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The Produce Market.

The foreign market advances up to April 21st showed considerable firmness, and an advance in prices. Though the crops in England and France had a very promising appearance, owing to the short arrivals of foreign supplies, and the diminished stock, the demand, and consequently prices, had increased. Within the past week prices have again declined, and on the 24th, the date of our latest advices the English markets showed a fall of 6d on flour, 2d on wheat and 4d on corn; the morning closing dull. This has had its effect on American markets, so the Chicago mar-

ket has declined; Milwaukee came down; Oswego was quiet and New York dull.

LIVERPOOL MARKETS.—Flour, 28s; Red Wheat, 12s-4d; Red Wheat, Winter, 12s 8d; White Wheat, 12s 10d; Corn, 38s; Barley, 38 6d; Oats, 3s 4d; Peas, 4s 6d.

CHICAGO MARKETS.—Wheat, \$1 28 to \$1 30; Corn, No. 2 mixed, 63c; Oats, No. 2, 46c; Rye, No. 2, 92c; Barley, No. 2 Spring, \$1 58 to \$1 60; Pork unsettled and lower; closed firmer, with a decline, but recovered to \$16 25.

NEW YORK.—The market is dull, and 5c to 10c lower. Rye Flour quiet and firm, \$4 90 to \$5; Wheat, \$1 50 to \$1 56; Corn, 82c to 87c; Barley, \$1 50; Oats, 64c to 67c.

DETROIT.—Wheat, \$1 49 to \$1 71; Corn, 72c to 77c; Barley, \$3 25 to \$3 80; Rye, 81.

IMPORTANT SALE.

Thorough-bred Cattle, Valuable Horses, &c., by Catalogue, AT MONTREAL.

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ON WEDNESDAY & THURSDAY, 13th and 14th May,

41 Head Thorough-bred Durham Cattle, 67 " " Ayrshire " 5 " " Alderney " 2 " " Galloway "

37 Horses, consisting of Thorough-breds, Carriage, Saddle, Draught, Imported Stallions, and Brood Mares, &c., &c.

Suffolk and Berkshire Swine, Sheep, &c.

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4 OUNCES OF "COMPTON'S SURPRISE" POTATO.

For engraving of which, see Centre page, also, 3 Japanese Peas.

4 OUNCES OF "BROWNELL'S BEAUTY" POTATO.

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1 POUND OF "SILVER HULL" BUCKWHEAT,

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4 OUNCES OF "MUMMY" PEAS,

Raised from a few peas taken from an Egyptian Mummy, a Continual Bearer, also, 3 Japanese Peas.

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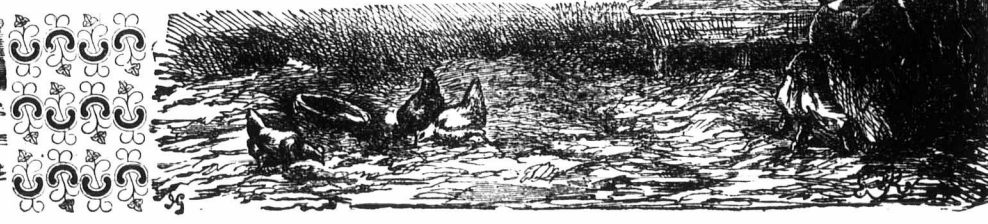
THE JAPANESE PEA.

See article on page 68. Here is what the introducer says of it:—"These peas have recently been brought to this country from Japan, and prove to be the finest pea known for table use, or for stock; they grow in the form of a bush, from 3 to 5 feet high, and do not need sticks, they yield from a quart to a gallon of peas per bush. The pea should be planted the same time you plant your corn, 1 pea in a hill, 12 inches apart, in rows 2½ to 3 feet apart. Cultivate the same as corn."

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VOL. I

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